

**From:** [Air.Pollution.Control](#)  
**To:** [APC Permitting](#)  
**Subject:** FW: JLG Industries, Inc. - Construction Permit Application - Facility ID 45-0188  
**Date:** Monday, October 23, 2023 12:44:23 PM  
**Attachments:** [Rust Inhibitor.pdf](#)  
[2a - Phosphate Additive ZIRCOBOND ADD P SDS.pdf](#)  
[1 - Alkaline Cleaner & Degreaser ULTRAX 32 SDS.pdf](#)  
[2 - Zirconium Based Sealer XBOND 4000 SM SDS.pdf](#)  
[2 - Zirconium Based Sealer XBOND 4000 SR SDS.pdf](#)  
[Attachment D - Emissions 10-23-2023.pdf](#)  
[TN Information Request Letter 10-02-2023.pdf](#)

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**From:** Michael Zeiders <mzeiders@libertyenviro.com>  
**Sent:** Monday, October 23, 2023 11:40 AM  
**To:** Air.Pollution.Control <Air.Pollution.Control@tn.gov>  
**Cc:** 'Michael.Veragami@tn.gov' <Michael.Veragami@tn.gov>; 'Jason M. Sharpe - Unit #1 Management' <jmsharpe@jlg.com>  
**Subject:** [EXTERNAL] JLG Industries, Inc. - Construction Permit Application - Facility ID 45-0188

\*\*\* This is an **EXTERNAL** email. Please exercise caution. DO NOT open attachments or click links from unknown senders or unexpected email - STS-Security. \*\*\*

Dear Sirs,

This email is in response to your letter of October 2, 2023 (attached) requesting additional information for JLG's Construction Permit Application for our aerial lift manufacturing facility located in Jefferson City, TN. Your questions and our responses are highlighted in the text below. In the future, JLG requests that correspondence be conducted via email to Jason M. Sharpe, Principal Environmental Engineer, JLG, Inc. as the letter of October 2, 2023 took approximately two (2) weeks to arrive via USPS.

Your questions and our responses follow below. If you require any further information, please do not hesitate to contact Jason Sharpe (cc'd on this email) or me.

Sincerely,

**Michael D. Zeiders | Project Manager |** [mzeiders@libertyenviro.com](mailto:mzeiders@libertyenviro.com) | 610.375.9301

**LIBERTY ENVIRONMENTAL, INC.** | [www.libertyenviro.com](http://www.libertyenviro.com)

**Reading:** 505 Penn Street, Suite 400 Reading PA 19601 **610.375.9301**

**Lancaster:** 315 West James Street, Suite 205, Lancaster, PA 17603 **717.517.5000**

**Philadelphia:** Three Westlakes, 1055 Westlakes Drive, 3rd Floor, Berwyn, PA 19312 **610.727.3848**

**New York City:** 600 Third Avenue, Second Floor, New York, NY 10016 **212.255.0374**

**Air Quality|Natural & Water Resources|Regulatory Compliance|Site Assessment & Remediation**

1. Particulate matter emission calculations are determined in Appendix B for sources 01, 02, 03, and 05 solely by the airflow rating of the exhaust point and a grain loading factor described in TAPCR 1200-03-07-.04(1). While this is appropriate for calculation of the allowable PM emission limit at each exhaust point, the actual emissions and maximum uncontrolled emissions of these sources are not adequately described in the emission calculations. Please provide complete actual and maximum uncontrolled emission calculations for each of these sources, based on maximum hourly abrasive used and mass balances of surface coatings, as appropriate.

See Attachment D. Particulate matter emissions from the surface coating operations were recalculated using coating composition information and anticipated maximum throughputs. Blast booth emissions were recalculated using manufacturer supplied emission factors.

2. No emission calculations are provided for welding emissions. Please provide maximum uncontrolled emission calculations for welding emissions that demonstrate that the emissions are below the insignificant activity thresholds and may be considered an insignificant source of emissions.

See Attachment D. Particulate matter emissions were calculated using USEPA emission factors and anticipated maximum throughputs. PM/PM10 emissions are 2.42 tpy (pre-control) and 0.24 tpy (post-control) which are below the insignificant activity thresholds.

3. Surface coating emissions are assumed using the 3.5 lbs/gallon VOC limit listed in TAPCR 1200-03-18-.20(2), not necessarily the VOC content of the coatings described in the safety data sheets (SDS) provided or the APC 9 form. Please provide updated calculations for the VOC and HAP emissions from surface coating.

See Attachment D. VOC and HAP emissions from the surface coating operations were recalculated using coating composition information and anticipated maximum throughputs.

4. A coating is defined in TAPCR 1200-03-18-.01(11) as "a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, maskants, and temporary protective coatings." This also includes rust inhibitor materials. Provide a copy of the SDS for the rust inhibitor used and calculations of emissions from the rust inhibitor application process.

See Attached SDS. The rust inhibitor material (ITW Pro Brands – LPS) is supplied in small handheld aerosol cans and is used in post-assembly operations to protect non-coated parts (e.g., bolts, pins, etc.) Maximum annual usage is estimated to be approximately 80 gallons. It has a density of 7.28 lbs/gal and a VOC content of 62.8% resulting in anticipated maximum VOC emissions of 365.7 lbs/yr which is below the insignificant activity threshold.

5. Provide a list of the tanks that comprise the pretreatment wash process and the contents of each tank, including names of chemicals added.

See Attached SDS. There are six (6) tanks in total. Tanks 2, 3, 5, & 6 are all water rinse tanks. Tank 1 is the wash tank (Alkaline Cleaner – Ultrax 32) and Tank 4 is the zirconium sealer (XBond 4000 either SM or SR depending on which works best) with a phosphate additive (Zircobond Add P). Ultramax 32 is a water-based KOH solution. XBOND/Zircobond are acidic/phosphate solutions. All materials are added to water at <5%.

#### Tank Capacity

| Stage | Gallons | Width | Solution Height | Length | Tank Material |
|-------|---------|-------|-----------------|--------|---------------|
|-------|---------|-------|-----------------|--------|---------------|

|                 |       |        |       |        |              |
|-----------------|-------|--------|-------|--------|--------------|
| 1 <sup>st</sup> | 3,590 | 16'-0" | 2'-6" | 12'-0" | 3/16" 304 SS |
| 2 <sup>nd</sup> | 2,400 | 16'-0" | 2'-6" | 8'-0"  | 3/16" 304 SS |
| 3 <sup>rd</sup> | 2,400 | 16'-0" | 2'-6" | 8'-0"  | 3/16" 316 SS |
| 4 <sup>th</sup> | 3,590 | 16'-0" | 2'-6" | 12'-0" | 3/16" 316 SS |
| 5 <sup>th</sup> | 2,400 | 16'-0" | 2'-6" | 8'-0"  | 3/16" 316 SS |
| 6 <sup>th</sup> | 1,800 | 16'-0" | 2'-6" | 6'-0"  | 3/16" 316 SS |



STATE OF TENNESSEE  
DEPARTMENT OF ENVIRONMENT AND CONSERVATION  
DIVISION OF AIR POLLUTION CONTROL

William R. Snodgrass Tennessee Tower, 15<sup>th</sup> Floor  
312 Rosa L. Parks Avenue  
Nashville, TN 37243  
(615) 532-0554 Voice or (615) 532-0614 FAX

Certified Article Number

9414 7266 9904 2212 9411 90

SENDER'S RECORD

October 2, 2023

Mr. Shawn Knox, Vice President  
JLG Industries, Inc.  
13712 Crayton Boulevard  
Hagerstown, MD 21742

Re: Construction Permit Application  
1400 Flat Gap Road, Jefferson City, TN 37760  
Emission Source Reference No. 45-0188/Permit No. 981761

Dear Mr. Knox:

Your construction permit application dated August 29, 2023, for an aerial lift and telescopic material handling manufacturing process was received on September 1, 2023. The required application processing fee was received on September 18, 2023. Please be advised that construction or modification of the source cannot begin until you are in receipt of the issued construction/modification permit. A determination has been made that the application is incomplete for the following reason(s):

Additional information is needed as follows:

1. Particulate matter emission calculations are determined in Appendix B for sources 01, 02, 03, and 05 solely by the airflow rating of the exhaust point and a grain loading factor described in TAPCR 1200-03-07-.04(1). While this is appropriate for calculation of the allowable PM emission limit at each exhaust point, the actual emissions and maximum uncontrolled emissions of these sources are not adequately described in the emission calculations. Please provide complete actual and maximum uncontrolled emission calculations for each of these sources, based on maximum hourly abrasive used and mass balances of surface coatings, as appropriate.
2. No emission calculations are provided for welding emissions. Please provide maximum uncontrolled emission calculations for welding emissions that demonstrate that the emissions are below the insignificant activity thresholds and may be considered an insignificant source of emissions.
3. Surface coating emissions are assumed using the 3.5 lbs/gallon VOC limit listed in TAPCR 1200-03-18-.20(2), not necessarily the VOC content of the coatings described in the safety data sheets (SDS) provided or the APC 9 form. Please provide updated calculations for the VOC and HAP emissions from surface coating.
4. A coating is defined in TAPCR 1200-03-18-.01(11) as "a material applied onto or impregnated into a substrate for protective, decorative, or functional purposes. Such materials include, but are not limited to, paints, varnishes, sealants, adhesives, maskants, and temporary protective coatings." This also

- includes rust inhibitor materials. Provide a copy of the SDS for the rust inhibitor used and calculations of emissions from the rust inhibitor application process.
5. Provide a list of the tanks that comprise the pretreatment wash process and the contents of each tank, including names of chemicals added.

Please submit the additional information to the Technical Secretary at the letterhead address or email the information to [Air.Pollution.Control@TN.gov](mailto:Air.Pollution.Control@TN.gov) in Adobe pdf format within 60 days of receipt of this letter so that the Division can review the revised application for completeness. If additional deficiencies are identified, you will be able to correct them within the remainder of the 180-day-period that begins on the date you received this letter, as provided in subparagraph 1200-03-26-.02(4)(d) of the Tennessee Air Pollution Control Regulations.

It is the express intent of the Tennessee Air Pollution Control Board that the 180-day permit application correction period is not to be construed by an applicant as permission to construct or modify a source without the permit required by Division Rules. If you fail to submit a complete application within this 180-day time period, all construction permits shall be denied and any fees forfeited.

If you have any questions concerning this correspondence, please contact Mr Michael Vergamini at 615.532.0068 or [Michael.Vergamini@tn.gov](mailto:Michael.Vergamini@tn.gov). Your Facility ID is **45-0188**, please reference this number in any further correspondence with the Division.

Sincerely,



James P. Johnston, P.E.  
Deputy Director  
Permitting & Regulatory Development

# SAFETY DATA SHEET



Date of issue/Date of revision 27 June 2021

Version 13.01

## Section 1. Identification

Product name : ULTRAX 32  
Product code : UT32  
Other means of identification : Not available.  
Product type : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.  
Use of the substance/mixture : Coating. Paints. Painting-related materials.  
Uses advised against : Not applicable.

Manufacturer : Pretreatment and Specialty Products  
23000 St. Clair Avenue  
Euclid, OH 44117

Emergency telephone number : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
SETIQ Interior de la República: 800-00-214-00 (México)  
SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 1-888-774-2001 (US and Canada)

## Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture : SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1  
Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 2% (oral), 19% (dermal), 24.5% (inhalation)

### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

Precautionary statements

Product code UT32

Date of issue 27 June 2021

Version 13.01

Product name ULTRAX 32

## Section 2. Hazards identification

- Prevention** : Wear protective gloves, protective clothing and eye or face protection. Wash thoroughly after handling.
- Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.
- Storage** : Store locked up.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Supplemental label elements** : Emits toxic fumes when heated.
- Hazards not otherwise classified** : None known.

## Section 3. Composition/information on ingredients

- Substance/mixture** : Mixture
- Product name** : ULTRAX 32

| Ingredient name                                                                 | %            | CAS number |
|---------------------------------------------------------------------------------|--------------|------------|
| potassium hydroxide                                                             | ≥10 - ≤20    | 1310-58-3  |
| Alcohols, C8-10, ethers with polyethylene-polypropylene glycol monobenzyl ether | ≥1.0 - ≤5.0  | 68154-99-4 |
| etidronic acid                                                                  | ≥0.10 - ≤2.5 | 2809-21-4  |
| Poly(oxy-1,2-ethanediyl), α-[3,5-dimethyl-1-(2-methylpropyl)hexyl]-ω-hydroxy-   | ≥1.0 - ≤5.0  | 60828-78-6 |
| Butanedioic acid, 2-(2-octen-1-yl)-                                             | ≥0.10 - ≤2.1 | 62568-82-5 |
| potassium 2-ethylhexanoate                                                      | ≤1.4         | 3164-85-0  |

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

### Description of necessary first aid measures

- Eye contact** : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.

## Section 4. First aid measures

- Inhalation** : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel.
- Skin contact** : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.
- Ingestion** : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes severe burns.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

#### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

## Section 5. Fire-fighting measures

- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon oxides  
phosphorus oxides  
metal oxide/oxides
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Special precautions** : Do not get in eyes or on skin or clothing. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. If this material is part of a multiple component system, read the Safety Data Sheet(s) for the other component or components before blending as the resulting mixture may have the hazards of all of its parts.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

- Conditions for safe storage, including any incompatibilities** : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from acids. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name                                                | Exposure limits                           |
|----------------------------------------------------------------|-------------------------------------------|
| potassium hydroxide                                            | <b>ACGIH TLV (United States, 3/2020).</b> |
| Alcohols, C8-10, ethers with polyethylene-polypropylene glycol | C: 2 mg/m <sup>3</sup>                    |
| monobenzyl ether                                               | None.                                     |
| etidronic acid                                                 | None.                                     |
| Poly(oxy-1,2-ethanediyl), α-                                   | None.                                     |
| [3,5-dimethyl-1-(2-methylpropyl)hexyl]-ω-hydroxy-              | None.                                     |
| Butanedioic acid, 2-(2-octen-1-yl)-                            | None.                                     |
| potassium 2-ethylhexanoate                                     | None.                                     |

#### Key to abbreviations

- |                                                                      |                                         |
|----------------------------------------------------------------------|-----------------------------------------|
| A = Acceptable Maximum Peak                                          | S = Potential skin absorption           |
| ACGIH = American Conference of Governmental Industrial Hygienists.   | SR = Respiratory sensitization          |
| C = Ceiling Limit                                                    | SS = Skin sensitization                 |
| F = Fume                                                             | STEL = Short term Exposure limit values |
| IPEL = Internal Permissible Exposure Limit                           | TD = Total dust                         |
| OSHA = Occupational Safety and Health Administration.                | TLV = Threshold Limit Value             |
| R = Respirable                                                       | TWA = Time Weighted Average             |
| Z = OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances |                                         |

**Consult local authorities for acceptable exposure limits.**

## Section 8. Exposure controls/personal protection

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.
- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.
- Individual protection measures**
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Eye/face protection** : Chemical splash goggles and face shield.
- Skin protection**
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Gloves** : nitrile neoprene
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. The respiratory protection shall be in accordance to 29 CFR 1910.134.

## Section 9. Physical and chemical properties

### Appearance

|                                              |                                                                      |
|----------------------------------------------|----------------------------------------------------------------------|
| Physical state                               | : Liquid.                                                            |
| Color                                        | : Not available.                                                     |
| Odor                                         | : Not available.                                                     |
| Odor threshold                               | : Not available.                                                     |
| pH                                           | : 13.6                                                               |
| Melting point                                | : Not available.                                                     |
| Boiling point                                | : >37.78°C (>100°F)                                                  |
| Flash point                                  | : Closed cup: Not applicable. [Product does not sustain combustion.] |
| Auto-ignition temperature                    | : Not available.                                                     |
| Decomposition temperature                    | : Not available.                                                     |
| Flammability (solid, gas)                    | : Not available.                                                     |
| Lower and upper explosive (flammable) limits | : Not available.                                                     |
| Evaporation rate                             | : Not available.                                                     |
| Vapor pressure                               | : Not available.                                                     |
| Vapor density                                | : Not available.                                                     |
| Relative density                             | : 1.13                                                               |
| Density ( lbs / gal )                        | : 9.43                                                               |
| Solubility                                   | : Soluble in the following materials: cold water.                    |
| Partition coefficient: n-octanol/water       | : Not applicable.                                                    |
| Viscosity                                    | : Kinematic (40°C (104°F)): <14 mm <sup>2</sup> /s (<14 cSt)         |
| Volatility                                   | : 84% (v/v), 73.897% (w/w)                                           |
| % Solid. (w/w)                               | : 26.103                                                             |

## Section 10. Stability and reactivity

|                                    |                                                                                                                                            |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | : No specific test data related to reactivity available for this product or its ingredients.                                               |
| Chemical stability                 | : The product is stable.                                                                                                                   |
| Possibility of hazardous reactions | : Under normal conditions of storage and use, hazardous reactions will not occur.                                                          |
| Conditions to avoid                | : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8. |
| Incompatible materials             | : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.           |
| Hazardous decomposition products   | : Depending on conditions, decomposition products may include the following materials: carbon oxides phosphorus oxides metal oxide/oxides  |

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name                                                                                                        | Result      | Species      | Dose        | Exposure |
|--------------------------------------------------------------------------------------------------------------------------------|-------------|--------------|-------------|----------|
| potassium hydroxide<br>etidronic acid<br><br>Poly(oxy-1,2-ethanediyl), α-<br>[3,5-dimethyl-1-(2-methylpropyl)hexyl]-ω-hydroxy- | LD50 Oral   | Rat          | 273 mg/kg   | -        |
|                                                                                                                                | LD50 Dermal | Rabbit       | >5000 mg/kg | -        |
|                                                                                                                                | LD50 Oral   | Rat          | 1878 mg/kg  | -        |
|                                                                                                                                | LD50 Dermal | Rabbit       | 4.78 g/kg   | -        |
| Butanedioic acid, 2-(2-octen-<br>1-yl)-                                                                                        | LD50 Oral   | Rat          | 5.65 g/kg   | -        |
|                                                                                                                                | LD50 Oral   | Rat - Female | 1030 mg/kg  | -        |
| potassium 2-ethylhexanoate                                                                                                     | LD50 Oral   | Rat          | 3 g/kg      | -        |

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Irritation/Corrosion

| Product/ingredient name | Result                | Species | Score | Exposure | Observation |
|-------------------------|-----------------------|---------|-------|----------|-------------|
| etidronic acid          | Eyes - Cornea opacity | Rabbit  | 90    | 24 hours | 72 hours    |

#### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Eyes** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Sensitization

#### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Target organs

: Contains material which may cause damage to the following organs: upper respiratory tract, skin, eye, lens or cornea.

#### Aspiration hazard

## Section 11. Toxicological information

Not available.

### Information on the likely routes of exposure

#### Potential acute health effects

- |              |                                                     |
|--------------|-----------------------------------------------------|
| Eye contact  | : Causes serious eye damage.                        |
| Inhalation   | : No known significant effects or critical hazards. |
| Skin contact | : Causes severe burns.                              |
| Ingestion    | : No known significant effects or critical hazards. |

#### Over-exposure signs/symptoms

- |              |                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------|
| Eye contact  | : Adverse symptoms may include the following:<br>pain<br>watering<br>redness                           |
| Inhalation   | : No specific data.                                                                                    |
| Skin contact | : Adverse symptoms may include the following:<br>pain or irritation<br>redness<br>blistering may occur |
| Ingestion    | : Adverse symptoms may include the following:<br>stomach pains                                         |

#### Delayed and immediate effects and also chronic effects from short and long term exposure

- |                    |                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conclusion/Summary | : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

#### Short term exposure

- |                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Potential immediate effects | : There are no data available on the mixture itself. |
| Potential delayed effects   | : There are no data available on the mixture itself. |

#### Long term exposure

- |                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Potential immediate effects | : There are no data available on the mixture itself. |
| Potential delayed effects   | : There are no data available on the mixture itself. |

#### Potential chronic health effects

- |                       |                                                     |
|-----------------------|-----------------------------------------------------|
| General               | : No known significant effects or critical hazards. |
| Carcinogenicity       | : No known significant effects or critical hazards. |
| Mutagenicity          | : No known significant effects or critical hazards. |
| Reproductive toxicity | : No known significant effects or critical hazards. |

#### Numerical measures of toxicity

##### Acute toxicity estimates

Product code UT32

Date of issue 27 June 2021

Version 13.01

Product name ULTRAX 32

## Section 11. Toxicological information

| Product/ingredient name                                                                        | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|------------------------------------------------------------------------------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| ULTRAX 32                                                                                      | 2802.9       | 37134.8        | N/A                      | N/A                        | N/A                                 |
| potassium hydroxide                                                                            | 500          | N/A            | N/A                      | N/A                        | N/A                                 |
| Alcohols, C8-10, ethers with polyethylene-polypropylene glycol monobenzyl ether                | N/A          | 1100           | N/A                      | N/A                        | N/A                                 |
| etidronic acid                                                                                 | 1878         | N/A            | N/A                      | N/A                        | N/A                                 |
| Poly(oxy-1,2-ethanediyl), $\alpha$ -[3,5-dimethyl-1-(2-methylpropyl)hexyl]- $\omega$ -hydroxy- | 5650         | 4780           | N/A                      | N/A                        | N/A                                 |
| Butanedioic acid, 2-(2-octen-1-yl)-                                                            | 1030         | N/A            | N/A                      | N/A                        | N/A                                 |
| potassium 2-ethylhexanoate                                                                     | 3000         | N/A            | N/A                      | N/A                        | N/A                                 |

## Section 12. Ecological information

### Toxicity

| Product/ingredient name | Result              | Species | Exposure |
|-------------------------|---------------------|---------|----------|
| etidronic acid          | Acute LC50 195 mg/l | Fish    | 96 hours |

### Persistence and degradability

| Product/ingredient name                                                         | Aquatic half-life | Photolysis | Biodegradability |
|---------------------------------------------------------------------------------|-------------------|------------|------------------|
| Alcohols, C8-10, ethers with polyethylene-polypropylene glycol monobenzyl ether | -                 | -          | Readily          |

### Bioaccumulative potential

| Product/ingredient name                                                         | LogP <sub>ow</sub> | BCF | Potential |
|---------------------------------------------------------------------------------|--------------------|-----|-----------|
| Alcohols, C8-10, ethers with polyethylene-polypropylene glycol monobenzyl ether | 3.46               | 90  | low       |
| etidronic acid                                                                  | -3.5               | -   | low       |

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

## 14. Transport information

|                             | DOT                                                                 | IMDG                                                                | IATA                                                                |
|-----------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|---------------------------------------------------------------------|
| UN number                   | UN3266                                                              | UN3266                                                              | UN3266                                                              |
| UN proper shipping name     | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.<br>(potassium hydroxide) | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.<br>(potassium hydroxide) | CORROSIVE LIQUID, BASIC, INORGANIC, N.O.S.<br>(potassium hydroxide) |
| Transport hazard class(es)  | 8                                                                   | 8                                                                   | 8                                                                   |
| Packing group               | II                                                                  | II                                                                  | II                                                                  |
| Environmental hazards       | No.                                                                 | No.                                                                 | No.                                                                 |
| Marine pollutant substances | Not applicable.                                                     | Not applicable.                                                     | Not applicable.                                                     |
| Product RQ (lbs)            | 6074.2                                                              | Not applicable.                                                     | Not applicable.                                                     |
| RQ substances               | (potassium hydroxide)                                               | Not applicable.                                                     | Not applicable.                                                     |

### Additional information

**DOT** : Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.

**IMDG** : The segregation group has been manually assigned based upon product analysis.

**IATA** : None identified.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

Product code **UT32**  
Product name **ULTRAX 32**

Date of issue **27 June 2021**

Version **13.01**

## Section 15. Regulatory information

### United States

**United States inventory (TSCA 8b)** : All components are active or exempted.

**U.S. Federal regulations** :

#### SARA 302/304

**SARA 304 RQ** : Not applicable.

#### Composition/information on ingredients

No products were found.

#### SARA 311/312

**Classification** : SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1

#### Composition/information on ingredients

| Name                                                                                                    | %            | Classification                                                                                          |
|---------------------------------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------------------------------|
| potassium hydroxide                                                                                     | ≥10 - ≤20    | ACUTE TOXICITY (oral) - Category 4<br>SKIN CORROSION - Category 1A<br>SERIOUS EYE DAMAGE - Category 1   |
| Alcohols, C8-10, ethers with<br>polyethylene-polypropylene<br>glycol monobenzyl ether<br>etidronic acid | ≥1.0 - ≤5.0  | ACUTE TOXICITY (dermal) - Category 4<br>SKIN IRRITATION - Category 2<br>SERIOUS EYE DAMAGE - Category 1 |
| Poly(oxy-1,2-ethanediyl), α-<br>[3,5-dimethyl-1-(2-methylpropyl)hexyl]-ω-hydroxy-                       | ≥0.10 - ≤2.5 | ACUTE TOXICITY (oral) - Category 4<br>SERIOUS EYE DAMAGE - Category 1                                   |
| Poly(oxy-1,2-ethanediyl), α-<br>[3,5-dimethyl-1-(2-methylpropyl)hexyl]-ω-hydroxy-                       | ≥1.0 - ≤5.0  | SKIN IRRITATION - Category 2<br>SERIOUS EYE DAMAGE - Category 1                                         |
| Butanedioic acid, 2-(2-octen-1-yl)                                                                      | ≥0.10 - ≤2.1 | ACUTE TOXICITY (oral) - Category 4<br>SKIN CORROSION - Category 1<br>SERIOUS EYE DAMAGE - Category 1    |
| potassium 2-ethylhexanoate                                                                              | ≤1.4         | COMBUSTIBLE DUSTS<br>SKIN IRRITATION - Category 2                                                       |

**Additional environmental information** is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

**Health** : 3      **Flammability** : 0      **Physical hazards** : 1

(\*) - Chronic effects

**Caution:** HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

**The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.**

**National Fire Protection Association (U.S.A.)**

Product code UT32

Date of issue 27 June 2021

Version 13.01

Product name ULTRAX 32

## Section 16. Other information

Health : 3      Flammability : 0      Instability : 1

Date of previous issue : 1/5/2021

Organization that prepared the SDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

☑ Indicates information that has changed from previously issued version.

### Disclaimer

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*

# SAFETY DATA SHEET



Date of issue/Date of revision 9 November 2021

Version 4.03

## Section 1. Identification

Product name : XBOND 4000SM

Product code : XB4000SM

Other means of identification : Not available.

Product type : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Product use : Consumer applications.

Use of the substance/  
mixture : Coating. Paints. Painting-related materials.

Uses advised against : Not applicable.

Manufacturer : Pretreatment and Specialty Products  
23000 St. Clair Avenue  
Euclid, OH 44117

Emergency telephone number : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
SETIQ Interior de la República: 800-00-214-00 (México)  
SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 1-888-774-2001 (US and Canada)

## Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the  
substance or mixture : SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1

### GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

### Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face protection. Wash thoroughly after handling.

## Section 2. Hazards identification

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Response                         | : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. |
| Storage                          | : Store locked up.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Disposal                         | : Dispose of contents and container in accordance with all local, regional, national and international regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Supplemental label elements      | : Add this product only to water. Never add water to this product. Sanding and grinding dusts may be harmful if inhaled. Emits toxic fumes when heated.                                                                                                                                                                                                                                                                                                                                                                                                                                |
| Hazards not otherwise classified | : None known.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Section 3. Composition/information on ingredients

|                   |                |
|-------------------|----------------|
| Substance/mixture | : Mixture      |
| Product name      | : XBOND 4000SM |

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

### Description of necessary first aid measures

|              |                                                                                                                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact  | : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.                            |
| Inhalation   | : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. |
| Skin contact | : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.                                             |
| Ingestion    | : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.                                                          |

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

|              |                                                     |
|--------------|-----------------------------------------------------|
| Eye contact  | : Causes serious eye damage.                        |
| Inhalation   | : No known significant effects or critical hazards. |
| Skin contact | : Causes severe burns.                              |
| Ingestion    | : No known significant effects or critical hazards. |

#### Over-exposure signs/symptoms

## Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness
- Inhalation** : No specific data.
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Ingestion** : Adverse symptoms may include the following:  
stomach pains

### Indication of immediate medical attention and special treatment needed, if necessary

- Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst.
- Hazardous thermal decomposition products** : No specific data.
- Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Special precautions** : Add this product only to water. Never add water to this product. Do not get in eyes or on skin or clothing. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Chemical splash goggles and face shield.

#### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls/personal protection

- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.  
The respiratory protection shall be in accordance to 29 CFR 1910.134.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.  
**Color** : Not available.  
**Odor** : Not available.  
**Odor threshold** : Not available.  
**pH** : 1.5  
**Melting point** : Not available.  
**Boiling point** : >37.78°C (>100°F)  
**Flash point** : Closed cup: Not applicable.  
**Auto-ignition temperature** : Not available.  
**Decomposition temperature** : Not available.  
**Flammability (solid, gas)** : Not available.  
**Lower and upper explosive (flammable) limits** : Not available.  
**Evaporation rate** : Not available.  
**Vapor pressure** : Not available.  
**Vapor density** : Not available.  
**Relative density** : 1.01  
**Density ( lbs / gal )** : 8.43  
**Solubility** : Soluble in the following materials: cold water.  
**Partition coefficient: n-octanol/water** : Not applicable.  
**Viscosity** : Kinematic (40°C (104°F)): >21 mm<sup>2</sup>/s (>21 cSt)  
**Volatility** : 100% (v/v), 99.045% (w/w)  
**% Solid. (w/w)** : 0.955

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.

## Section 10. Stability and reactivity

Refer to protective measures listed in sections 7 and 8.

**Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Irritation/Corrosion

##### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Eyes** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Sensitization

##### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

### Information on the likely routes of exposure

#### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Causes severe burns.

**Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

## Section 11. Toxicological information

|              |                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------|
| Eye contact  | : Adverse symptoms may include the following:<br>pain<br>watering<br>redness                           |
| Inhalation   | : No specific data.                                                                                    |
| Skin contact | : Adverse symptoms may include the following:<br>pain or irritation<br>redness<br>blistering may occur |
| Ingestion    | : Adverse symptoms may include the following:<br>stomach pains                                         |

### Delayed and immediate effects and also chronic effects from short and long term exposure

|                    |                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conclusion/Summary | : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Short term exposure

|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Potential immediate effects | : There are no data available on the mixture itself. |
| Potential delayed effects   | : There are no data available on the mixture itself. |

### Long term exposure

|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Potential immediate effects | : There are no data available on the mixture itself. |
| Potential delayed effects   | : There are no data available on the mixture itself. |

### Potential chronic health effects

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| General               | : No known significant effects or critical hazards. |
| Carcinogenicity       | : No known significant effects or critical hazards. |
| Mutagenicity          | : No known significant effects or critical hazards. |
| Reproductive toxicity | : No known significant effects or critical hazards. |

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil

Product code **XB4000SM**Date of issue **9 November 2021** Version **4.03**Product name **XBOND 4000SM**

## Section 12. Ecological information

Soil/water partition coefficient ( $K_{oc}$ ) : Not available.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: **HANDLING AND STORAGE** and Section 8: **EXPOSURE CONTROLS/PERSONAL PROTECTION** for additional handling information and protection of employees. Section 6. **Accidental release measures**

## 14. Transport information

|                             | DOT                                                              | IMDG                                                             | IATA                                                             |
|-----------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| UN number                   | UN3264                                                           | UN3264                                                           | UN3264                                                           |
| UN proper shipping name     | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.<br>(Phosphoric acid) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.<br>(Phosphoric acid) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.<br>(Phosphoric acid) |
| Transport hazard class(es)  | 8                                                                | 8                                                                | 8                                                                |
| Packing group               | II                                                               | II                                                               | II                                                               |
| Environmental hazards       | No.                                                              | No.                                                              | No.                                                              |
| Marine pollutant substances | Not applicable.                                                  | Not applicable.                                                  | Not applicable.                                                  |

### Additional information

**DOT** : None identified.

**IMDG** : The segregation group has been manually assigned based upon product analysis.

**IATA** : None identified.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Product code **XB4000SM**

Date of issue **9 November 2021** Version **4.03**

Product name **XBOND 4000SM**

## 14. Transport information

Transport in bulk according to IMO instruments : Not applicable.

## Section 15. Regulatory information

### United States

United States inventory (TSCA 8b) : All components are active or exempted.

U.S. Federal regulations :

#### SARA 302/304

SARA 304 RQ : Not applicable.

#### Composition/information on ingredients

No products were found.

#### SARA 311/312

Classification : SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1

#### Composition/information on ingredients

No products were found.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health : 3 Flammability : 0 Physical hazards : 0

(\*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)

Health : 3 Flammability : 0 Instability : 0

Date of previous issue : 6/27/2021

Organization that prepared the SDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

Product code **XB4000SM**

Date of issue **9 November 2021** Version **4.03**

Product name **XBOND 4000SM**

## Section 16. Other information

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available

SGG = Segregation Group

UN = United Nations

▣ Indicates information that has changed from previously issued version.

### Disclaimer

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*

# SAFETY DATA SHEET



Date of issue/Date of revision 9 November 2021

Version 4.03

## Section 1. Identification

Product name : XBOND 4000SR

Product code : XB4000SR

Other means of identification : Not available.

Product type : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.

Use of the substance/  
mixture : Coating. Paints. Painting-related materials.

Uses advised against : Not applicable.

Manufacturer : PPG Industries, Inc.

One PPG Place  
Pittsburgh, PA 15272

Emergency telephone : (412) 434-4515 (U.S.)

number

(514) 645-1320 (Canada)

SETIQ Interior de la República: 800-00-214-00 (México)

SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 1-800-245-2590 (CLEVELAND, OH) 8:00 a.m. - 5:00 p.m. EST

## Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the  
substance or mixture : SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1

### GHS label elements

Hazard pictograms



Signal word : Danger

Hazard statements : Causes severe skin burns and eye damage.

### Precautionary statements

Prevention : Wear protective gloves, protective clothing and eye or face protection. Wash thoroughly after handling.

## Section 2. Hazards identification

|                                  |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Response                         | : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor. IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor. Wash contaminated clothing before reuse. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor. |
| Storage                          | : Store locked up.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Disposal                         | : Dispose of contents and container in accordance with all local, regional, national and international regulations.                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
| Supplemental label elements      | : Add this product only to water. Never add water to this product. Emits toxic fumes when heated.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
| Hazards not otherwise classified | : None known.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |

## Section 3. Composition/information on ingredients

|                   |                |
|-------------------|----------------|
| Substance/mixture | : Mixture      |
| Product name      | : XBOND 4000SR |

There are no ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section. Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

### Description of necessary first aid measures

|              |                                                                                                                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact  | : Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Seek immediate medical attention.                            |
| Inhalation   | : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. |
| Skin contact | : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.                                             |
| Ingestion    | : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.                                                          |

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

|              |                                                     |
|--------------|-----------------------------------------------------|
| Eye contact  | : Causes serious eye damage.                        |
| Inhalation   | : No known significant effects or critical hazards. |
| Skin contact | : Causes severe burns.                              |
| Ingestion    | : No known significant effects or critical hazards. |

#### Over-exposure signs/symptoms

## Section 4. First aid measures

|              |                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------|
| Eye contact  | : Adverse symptoms may include the following:<br>pain<br>watering<br>redness                           |
| Inhalation   | : No specific data.                                                                                    |
| Skin contact | : Adverse symptoms may include the following:<br>pain or irritation<br>redness<br>blistering may occur |
| Ingestion    | : Adverse symptoms may include the following:<br>stomach pains                                         |

### Indication of immediate medical attention and special treatment needed, if necessary

|                            |                                                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Notes to physician         | : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.                                                                                                                                                                                                                                                                         |
| Specific treatments        | : No specific treatment.                                                                                                                                                                                                                                                                                                                                                                            |
| Protection of first-aiders | : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. |

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

|                                                |                                                                                                                                                                                               |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Suitable extinguishing media                   | : Use an extinguishing agent suitable for the surrounding fire.                                                                                                                               |
| Unsuitable extinguishing media                 | : None known.                                                                                                                                                                                 |
| Specific hazards arising from the chemical     | : In a fire or if heated, a pressure increase will occur and the container may burst.                                                                                                         |
| Hazardous thermal decomposition products       | : No specific data.                                                                                                                                                                           |
| Special protective actions for fire-fighters   | : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. |
| Special protective equipment for fire-fighters | : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.                         |

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Special precautions** : Add this product only to water. Never add water to this product. Do not get in eyes or on skin or clothing. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Chemical splash goggles and face shield.

#### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls/personal protection

- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.  
The respiratory protection shall be in accordance to 29 CFR 1910.134.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.  
**Color** : Not available.  
**Odor** : Not available.  
**Odor threshold** : Not available.  
**pH** : 1.6  
**Melting point** : Not available.  
**Boiling point** : >37.78°C (>100°F)  
**Flash point** : Closed cup: Not applicable. [Product does not sustain combustion.]  
**Auto-ignition temperature** : Not available.  
**Decomposition temperature** : Not available.  
**Flammability (solid, gas)** : Not available.  
**Lower and upper explosive (flammable) limits** : Not available.  
**Evaporation rate** : Not available.  
**Vapor pressure** : Not available.  
**Vapor density** : Not available.  
**Relative density** : 1.01  
**Density ( lbs / gal )** : 8.43  
**Solubility** : Soluble in the following materials: cold water.  
**Partition coefficient: n-octanol/water** : Not applicable.  
**Viscosity** : Kinematic (40°C (104°F)): >21 mm<sup>2</sup>/s (>21 cSt)  
**Volatility** : 100% (v/v), 98.627% (w/w)  
**% Solid. (w/w)** : 1.373

## Section 10. Stability and reactivity

- Reactivity** : No specific test data related to reactivity available for this product or its ingredients.
- Chemical stability** : The product is stable.
- Possibility of hazardous reactions** : Under normal conditions of storage and use, hazardous reactions will not occur.
- Conditions to avoid** : When exposed to high temperatures may produce hazardous decomposition products.

## Section 10. Stability and reactivity

Refer to protective measures listed in sections 7 and 8.

**Incompatible materials** : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

**Hazardous decomposition products** : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Irritation/Corrosion

##### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Eyes** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Sensitization

##### Conclusion/Summary

**Skin** : There are no data available on the mixture itself.

**Respiratory** : There are no data available on the mixture itself.

#### Mutagenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Carcinogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Reproductive toxicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Teratogenicity

**Conclusion/Summary** : There are no data available on the mixture itself.

#### Specific target organ toxicity (single exposure)

Not available.

#### Specific target organ toxicity (repeated exposure)

Not available.

#### Aspiration hazard

Not available.

### Information on the likely routes of exposure

#### Potential acute health effects

**Eye contact** : Causes serious eye damage.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Causes severe burns.

**Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

## Section 11. Toxicological information

|              |                                                                                                        |
|--------------|--------------------------------------------------------------------------------------------------------|
| Eye contact  | : Adverse symptoms may include the following:<br>pain<br>watering<br>redness                           |
| Inhalation   | : No specific data.                                                                                    |
| Skin contact | : Adverse symptoms may include the following:<br>pain or irritation<br>redness<br>blistering may occur |
| Ingestion    | : Adverse symptoms may include the following:<br>stomach pains                                         |

### Delayed and immediate effects and also chronic effects from short and long term exposure

|                    |                                                                                                                                                                                                                                                                                                                                                                                                              |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Conclusion/Summary | : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact. |
|--------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

### Short term exposure

|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Potential immediate effects | : There are no data available on the mixture itself. |
| Potential delayed effects   | : There are no data available on the mixture itself. |

### Long term exposure

|                             |                                                      |
|-----------------------------|------------------------------------------------------|
| Potential immediate effects | : There are no data available on the mixture itself. |
| Potential delayed effects   | : There are no data available on the mixture itself. |

### Potential chronic health effects

|                       |                                                     |
|-----------------------|-----------------------------------------------------|
| General               | : No known significant effects or critical hazards. |
| Carcinogenicity       | : No known significant effects or critical hazards. |
| Mutagenicity          | : No known significant effects or critical hazards. |
| Reproductive toxicity | : No known significant effects or critical hazards. |

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil

Product code **XB4000SR**Date of issue **9 November 2021** Version **4.03**Product name **XBOND 4000SR**

## Section 12. Ecological information

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: **HANDLING AND STORAGE** and Section 8: **EXPOSURE CONTROLS/PERSONAL PROTECTION** for additional handling information and protection of employees. Section 6. **Accidental release measures**

## 14. Transport information

|                             | DOT                                                              | IMDG                                                             | IATA                                                             |
|-----------------------------|------------------------------------------------------------------|------------------------------------------------------------------|------------------------------------------------------------------|
| UN number                   | UN3264                                                           | UN3264                                                           | UN3264                                                           |
| UN proper shipping name     | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.<br>(Phosphoric acid) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.<br>(Phosphoric acid) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S.<br>(Phosphoric acid) |
| Transport hazard class(es)  | 8                                                                | 8                                                                | 8                                                                |
| Packing group               | II                                                               | II                                                               | II                                                               |
| Environmental hazards       | No.                                                              | No.                                                              | No.                                                              |
| Marine pollutant substances | Not applicable.                                                  | Not applicable.                                                  | Not applicable.                                                  |

### Additional information

**DOT** : None identified.

**IMDG** : The segregation group has been manually assigned based upon product analysis.

**IATA** : None identified.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Product code XB4000SR

Date of issue 9 November 2021 Version 4.03

Product name XBOND 4000SR

## 14. Transport information

Transport in bulk according to IMO instruments : Not applicable.

## Section 15. Regulatory information

### United States

United States inventory (TSCA 8b) : All components are active or exempted.

U.S. Federal regulations :

#### SARA 302/304

SARA 304 RQ : Not applicable.

#### Composition/information on ingredients

No products were found.

#### SARA 311/312

Classification : SKIN CORROSION - Category 1  
SERIOUS EYE DAMAGE - Category 1

#### Composition/information on ingredients

No products were found.

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health : 3 Flammability : 0 Physical hazards : 0

(\*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)

Health : 3 Flammability : 0 Instability : 0

Date of previous issue : 6/6/2021

Organization that prepared the SDS : EHS

Key to abbreviations : ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973

Product code **XB4000SR**

Date of issue **9 November 2021** Version **4.03**

Product name **XBOND 4000SR**

## Section 16. Other information

as modified by the Protocol of 1978. ("Marpol" = marine pollution)

N/A = Not available

SGG = Segregation Group

UN = United Nations

✔ Indicates information that has changed from previously issued version.

### Disclaimer

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*

# SAFETY DATA SHEET



Date of issue/Date of revision 27 June 2021

Version 7.01

## Section 1. Identification

Product name : ZIRCOBOND ADDITIVE P

Product code : ZBADDP

Other means of identification : Not available.

Product type : Liquid.

### Relevant identified uses of the substance or mixture and uses advised against

Product use : Industrial applications.

Use of the substance/  
mixture : Pretreatment mixture

Uses advised against : Not applicable.

Manufacturer : Pretreatment and Specialty Products  
23000 St. Clair Avenue  
Euclid, OH 44117

Emergency telephone number : (412) 434-4515 (U.S.)  
(514) 645-1320 (Canada)  
SETIQ Interior de la República: 800-00-214-00 (México)  
SETIQ Ciudad de México: (55) 5559-1588 (México)

Technical Phone Number : 1-888-774-2001 (US and Canada)

## Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the  
substance or mixture : SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown acute toxicity: 40% (dermal), 40% (inhalation)

### GHS label elements

Hazard pictograms :



Signal word : Warning

Hazard statements : May cause respiratory irritation.

Precautionary statements

Product code ZBADDP

Date of issue 27 June 2021

Version 7.01

Product name ZIRCOBOND ADDITIVE P

## Section 2. Hazards identification

|                                  |                                                                                                                                 |
|----------------------------------|---------------------------------------------------------------------------------------------------------------------------------|
| Prevention                       | : Use only outdoors or in a well-ventilated area. Avoid breathing vapor.                                                        |
| Response                         | : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell. |
| Storage                          | : Store locked up. Store in a well-ventilated place. Keep container tightly closed.                                             |
| Disposal                         | : Dispose of contents and container in accordance with all local, regional, national and international regulations.             |
| Supplemental label elements      | : Emits toxic fumes when heated.                                                                                                |
| Hazards not otherwise classified | : None known.                                                                                                                   |

## Section 3. Composition/information on ingredients

|                   |                        |
|-------------------|------------------------|
| Substance/mixture | : Mixture              |
| Product name      | : ZIRCOBOND ADDITIVE P |

| Ingredient name                 | %         | CAS number |
|---------------------------------|-----------|------------|
| sodium dihydrogenorthophosphate | ≥20 - ≤50 | 7558-80-7  |

SUB codes represent substances without registered CAS Numbers.

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

## Section 4. First aid measures

If ingestion, irritation, any type of overexposure or symptoms of overexposure occur during or persists after use of this product, contact a POISON CONTROL CENTER, EMERGENCY ROOM OR PHYSICIAN immediately; have Safety Data Sheet information available. Never give anything by mouth to an unconscious or convulsing person.

### Description of necessary first aid measures

|              |                                                                                                                                                                                                  |
|--------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye contact  | : Remove contact lenses, irrigate copiously with clean, fresh water, holding the eyelids apart for at least 10 minutes and seek immediate medical advice.                                        |
| Inhalation   | : Remove to fresh air. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. |
| Skin contact | : Remove contaminated clothing and shoes. Wash skin thoroughly with soap and water or use recognized skin cleanser. Do NOT use solvents or thinners.                                             |
| Ingestion    | : If swallowed, seek medical advice immediately and show this container or label. Keep person warm and at rest. Do NOT induce vomiting.                                                          |

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

|              |                                                     |
|--------------|-----------------------------------------------------|
| Eye contact  | : No known significant effects or critical hazards. |
| Inhalation   | : May cause respiratory irritation.                 |
| Skin contact | : No known significant effects or critical hazards. |

## Section 4. First aid measures

**Ingestion** : No known significant effects or critical hazards.

### Over-exposure signs/symptoms

**Eye contact** : No specific data.

**Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing

**Skin contact** : No specific data.

**Ingestion** : No specific data.

### Indication of immediate medical attention and special treatment needed, if necessary

**Notes to physician** : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

**Specific treatments** : No specific treatment.

**Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

**Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.

**Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container may burst. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back.

**Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
phosphorus oxides  
metal oxide/oxides

**Special protective actions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

**Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

- For non-emergency personnel** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".
- Environmental precautions** : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

### Methods and materials for containment and cleaning up

- Small spill** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

## Section 7. Handling and storage

### Precautions for safe handling

- Protective measures** : Put on appropriate personal protective equipment (see Section 8). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Special precautions** : Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Vapors are heavier than air and may spread along floors. Incompatible with plastics. May produce or accumulate static electricity with the risk of causing fire and explosion.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Do not store below the following temperature: 5°C (41°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

| Ingredient name                 | Exposure limits |
|---------------------------------|-----------------|
| sodium dihydrogenorthophosphate | None.           |

#### Key to abbreviations

|                                                                      |                                         |
|----------------------------------------------------------------------|-----------------------------------------|
| A = Acceptable Maximum Peak                                          | S = Potential skin absorption           |
| ACGIH = American Conference of Governmental Industrial Hygienists.   | SR = Respiratory sensitization          |
| C = Ceiling Limit                                                    | SS = Skin sensitization                 |
| F = Fume                                                             | STEL = Short term Exposure limit values |
| IPEL = Internal Permissible Exposure Limit                           | TD = Total dust                         |
| OSHA = Occupational Safety and Health Administration.                | TLV = Threshold Limit Value             |
| R = Respirable                                                       | TWA = Time Weighted Average             |
| Z = OSHA 29 CFR 1910.1200 Subpart Z - Toxic and Hazardous Substances |                                         |

### Consult local authorities for acceptable exposure limits.

**Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

**Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety glasses with side shields.

#### Skin protection

## Section 8. Exposure controls/personal protection

- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.
- Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
- Respiratory protection** : Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator. If workers are exposed to concentrations above the exposure limit, they must use appropriate, certified respirators. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.  
The respiratory protection shall be in accordance to 29 CFR 1910.134.

## Section 9. Physical and chemical properties

### Appearance

- Physical state** : Liquid.
- Color** : Not available.
- Odor** : Not available.
- Odor threshold** : Not available.
- pH** : 3.7
- Melting point** : Not available.
- Boiling point** : >37.78°C (>100°F)
- Flash point** : Closed cup: Not applicable. [Product does not sustain combustion.]
- Auto-ignition temperature** : Not available.
- Decomposition temperature** : Not available.
- Flammability (solid, gas)** : Not available.
- Lower and upper explosive (flammable) limits** : Not available.
- Evaporation rate** : Not available.
- Vapor pressure** : Not available.
- Vapor density** : Not available.
- Relative density** : 1.34
- Density ( lbs / gal )** : 11.18
- Solubility** : Soluble in the following materials: cold water.
- Partition coefficient: n-octanol/water** : Not applicable.
- Viscosity** : Kinematic (40°C (104°F)): >21 mm<sup>2</sup>/s (>21 cSt)
- Volatility** : 75% (v/v), 60% (w/w)

Product code ZBADDP

Date of issue 27 June 2021

Version 7.01

Product name ZIRCOBOND ADDITIVE P

## Section 9. Physical and chemical properties

% Solid. (w/w) : 40

## Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : When exposed to high temperatures may produce hazardous decomposition products. Refer to protective measures listed in sections 7 and 8.

Incompatible materials : Keep away from the following materials to prevent strong exothermic reactions: oxidizing agents, strong alkalis, strong acids.

Hazardous decomposition products : Depending on conditions, decomposition products may include the following materials: phosphorus oxides metal oxide/oxides

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

| Product/ingredient name         | Result    | Species | Dose       | Exposure |
|---------------------------------|-----------|---------|------------|----------|
| sodium dihydrogenorthophosphate | LD50 Oral | Rat     | 8290 mg/kg | -        |

Conclusion/Summary : There are no data available on the mixture itself.

#### Irritation/Corrosion

##### Conclusion/Summary

Skin : There are no data available on the mixture itself.

Eyes : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

#### Sensitization

##### Conclusion/Summary

Skin : There are no data available on the mixture itself.

Respiratory : There are no data available on the mixture itself.

#### Mutagenicity

Conclusion/Summary : There are no data available on the mixture itself.

#### Carcinogenicity

Conclusion/Summary : There are no data available on the mixture itself.

#### Reproductive toxicity

Conclusion/Summary : There are no data available on the mixture itself.

#### Teratogenicity

## Section 11. Toxicological information

**Conclusion/Summary** : There are no data available on the mixture itself.

### Specific target organ toxicity (single exposure)

| Name                            | Category   | Route of exposure | Target organs                |
|---------------------------------|------------|-------------------|------------------------------|
| sodium dihydrogenorthophosphate | Category 3 | -                 | Respiratory tract irritation |

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

### Information on the likely routes of exposure

#### Potential acute health effects

- Eye contact** : No known significant effects or critical hazards.
- Inhalation** : May cause respiratory irritation.
- Skin contact** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

- Eye contact** : No specific data.
- Inhalation** : Adverse symptoms may include the following:  
respiratory tract irritation  
coughing
- Skin contact** : No specific data.
- Ingestion** : No specific data.

### Delayed and immediate effects and also chronic effects from short and long term exposure

- Conclusion/Summary** : There are no data available on the mixture itself. If splashed in the eyes, the liquid may cause irritation and reversible damage. Ingestion may cause nausea, diarrhea and vomiting. This takes into account, where known, delayed and immediate effects and also chronic effects of components from short-term and long-term exposure by oral, inhalation and dermal routes of exposure and eye contact.

#### Short term exposure

- Potential immediate effects** : There are no data available on the mixture itself.
- Potential delayed effects** : There are no data available on the mixture itself.

#### Long term exposure

- Potential immediate effects** : There are no data available on the mixture itself.
- Potential delayed effects** : There are no data available on the mixture itself.

#### Potential chronic health effects

- General** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.
- Mutagenicity** : No known significant effects or critical hazards.
- Reproductive toxicity** : No known significant effects or critical hazards.

### Numerical measures of toxicity

#### Acute toxicity estimates

Product code **ZBADDP**Date of issue **27 June 2021**Version **7.01**Product name **ZIRCOBOND ADDITIVE P**

## Section 11. Toxicological information

| Product/ingredient name         | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---------------------------------|--------------|----------------|--------------------------|----------------------------|-------------------------------------|
| sodium dihydrogenorthophosphate | 8290         | N/A            | N/A                      | N/A                        | N/A                                 |

## Section 12. Ecological information

### Toxicity

Not available.

### Persistence and degradability

Not available.

### Bioaccumulative potential

Not available.

### Mobility in soil

Soil/water partition coefficient (K<sub>oc</sub>) : Not available.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Disposal should be in accordance with applicable regional, national and local laws and regulations.

Refer to Section 7: HANDLING AND STORAGE and Section 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for additional handling information and protection of employees. Section 6. Accidental release measures

Product code **ZBADDP**Date of issue **27 June 2021**Version **7.01**Product name **ZIRCOBOND ADDITIVE P**

## 14. Transport information

|                             | DOT             | IMDG            | IATA            |
|-----------------------------|-----------------|-----------------|-----------------|
| UN number                   | Not regulated.  | Not regulated.  | Not regulated.  |
| UN proper shipping name     | -               | -               | -               |
| Transport hazard class(es)  | -               | -               | -               |
| Packing group               | -               | -               | -               |
| Environmental hazards       | No.             | No.             | No.             |
| Marine pollutant substances | Not applicable. | Not applicable. | Not applicable. |

### Additional information

DOT : None identified.

IMDG : None identified.

IATA : None identified.

**Special precautions for user** : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not applicable.

## Section 15. Regulatory information

### United States

**United States inventory (TSCA 8b)** : All components are active or exempted.

**U.S. Federal regulations** :

#### SARA 302/304

**SARA 304 RQ** : Not applicable.

#### Composition/information on ingredients

No products were found.

#### SARA 311/312

**Classification** : SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

#### Composition/information on ingredients

| Name                            | %         | Classification                                                                                                       |
|---------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------|
| sodium dihydrogenorthophosphate | ≥20 - ≤50 | COMBUSTIBLE DUSTS<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE)<br>(Respiratory tract irritation) - Category 3 |

Product code ZBADDP

Date of issue 27 June 2021

Version 7.01

Product name ZIRCOBOND ADDITIVE P

## Section 15. Regulatory information

Additional environmental information is contained on the Environmental Data Sheet for this product, which can be obtained from your PPG representative.

## Section 16. Other information

### Hazardous Material Information System (U.S.A.)

Health : 2      Flammability : 0      Physical hazards : 0

(\*) - Chronic effects

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on MSDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.

### National Fire Protection Association (U.S.A.)

Health : 2      Flammability : 0      Instability : 0

Date of previous issue : 1/5/2021

Organization that prepared the SDS : EHS

### Key to abbreviations

: ATE = Acute Toxicity Estimate  
BCF = Bioconcentration Factor  
GHS = Globally Harmonized System of Classification and Labelling of Chemicals  
IATA = International Air Transport Association  
IBC = Intermediate Bulk Container  
IMDG = International Maritime Dangerous Goods  
LogPow = logarithm of the octanol/water partition coefficient  
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
N/A = Not available  
SGG = Segregation Group  
UN = United Nations

☑ Indicates information that has changed from previously issued version.

### Disclaimer

*The information contained in this data sheet is based on present scientific and technical knowledge. The purpose of this information is to draw attention to the health and safety aspects concerning the products supplied by PPG, and to recommend precautionary measures for the storage and handling of the products. No warranty or guarantee is given in respect of the properties of the products. No liability can be accepted for any failure to observe the precautionary measures described in this data sheet or for any misuse of the products.*



# SAFETY DATA SHEET

## 1. Identification

|                                                               |                                                                                                                   |
|---------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
| Product identifier                                            | LPS® 3 (Aerosol)                                                                                                  |
| Other means of identification                                 |                                                                                                                   |
| Part Number                                                   | 00316                                                                                                             |
| Recommended use                                               | A specialized soft-film spray coating designed to prevent rust and corrosion on steel, aluminum and other metals. |
| Recommended restrictions                                      | None known.                                                                                                       |
| <b>Manufacturer/Importer/Supplier/Distributor information</b> |                                                                                                                   |
| <b>Manufacturer</b>                                           |                                                                                                                   |
| <b>Manufacturer</b>                                           |                                                                                                                   |
| Company name                                                  | ITW Pro Brands                                                                                                    |
| Address                                                       | 4647 Hugh Howell Rd.<br>Tucker, GA 30084                                                                          |
| Country                                                       | (U.S.A.)<br>Tel: +1 770-243-8800                                                                                  |
| In Case of Emergency                                          | 1-800-424-9300 (inside U.S.)<br>+001 703-527-3887 (outside U.S.)                                                  |
| Website                                                       | www.lpslabs.com                                                                                                   |
| E-mail                                                        | lpssds@itwprobrands.com                                                                                           |

## 2. Hazard(s) identification

|                       |                                                                                     |                              |
|-----------------------|-------------------------------------------------------------------------------------|------------------------------|
| Physical hazards      | Flammable aerosols<br>Gases under pressure                                          | Category 1<br>Compressed gas |
| Health hazards        | Skin corrosion/irritation<br>Serious eye damage/eye irritation                      | Category 2<br>Category 2A    |
| Environmental hazards | Not classified.                                                                     |                              |
| OSHA defined hazards  | Not classified.                                                                     |                              |
| Label elements        |  |                              |

|                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
|-------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Signal word                               | Danger                                                                                                                                                                                                                                                                                                                                                                                                                                                              |
| Hazard statement                          | Extremely flammable aerosol. Contains gas under pressure; may explode if heated. Causes skin irritation. Causes serious eye irritation.                                                                                                                                                                                                                                                                                                                             |
| <b>Precautionary statement</b>            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |
| Prevention                                | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Wash thoroughly after handling. Wear protective gloves and eye/face protection.                                                                                                                                                                                                                   |
| Response                                  | If swallowed: Call a poison center/doctor if you feel unwell. Rinse mouth. If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention. If on skin: Wash with plenty of water. Take off contaminated clothing and wash it before reuse. Specific treatment (see this label). If skin irritation occurs: Get medical advice/attention. |
| Storage                                   | Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F.                                                                                                                                                                                                                                                                                                                                                                                          |
| Disposal                                  | Dispose of contents/container in accordance with local/regional/national/international regulations.                                                                                                                                                                                                                                                                                                                                                                 |
| Hazard(s) not otherwise classified (HNOC) | None known.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Supplemental information                  | None known.                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

### 3. Composition/information on ingredients

#### Mixtures

| Chemical name                            | Common name and synonyms | CAS number | %       |
|------------------------------------------|--------------------------|------------|---------|
| Distillates Petroleum Hydrotreated Light |                          | 64742-47-8 | 50 - 60 |
| 1-butoxy-2-propanol                      |                          | 5131-66-8  | 1 - 10  |
| Acetone                                  |                          | 67-64-1    | 1 - 10  |
| Distillates Petroleum Hydrotreated Heavy |                          | 64742-54-7 | 1 - 10  |
| Hydrosulfurized Heavy Petroleum Naptha   |                          | 64742-82-1 | 0.1 - 1 |
| Petrolatum                               |                          | 8009-03-8  | 0.1 - 1 |

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

### 4. First-aid measures

|                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>                                                             | Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Do not use mouth-to-mouth method if victim inhaled the substance. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Call a POISON CENTER or doctor/physician if you feel unwell. |
| <b>Skin contact</b>                                                           | In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention if irritation develops and persists.                                                                                                                                                                                                    |
| <b>Eye contact</b>                                                            | Immediately flush with plenty of water for at least 15 minutes. If easy to do, remove contact lenses. Get medical attention if irritation develops and persists.                                                                                                                                                                                                                                      |
| <b>Ingestion</b>                                                              | Call a physician or poison control center immediately. Only induce vomiting at the instruction of medical personnel. Never give anything by mouth to an unconscious person. If vomiting occurs, keep head low so that stomach content doesn't get into the lungs.                                                                                                                                     |
| <b>Most important symptoms/effects, acute and delayed</b>                     | Irritant effects. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Defatting of the skin. Rash. Symptoms of overexposure can include shortness of breath, drowsiness, headaches, confusion, decreased coordination, visual disturbances and vomiting, and are reversible if exposure is stopped.                                                                        |
| <b>Indication of immediate medical attention and special treatment needed</b> | Provide general supportive measures and treat symptomatically. In case of shortness of breath, give oxygen. Keep victim under observation. Symptoms may be delayed.                                                                                                                                                                                                                                   |
| <b>General information</b>                                                    | In the case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.                                                                                                                                                                      |

### 5. Fire-fighting measures

|                                                                      |                                                                                                                                                                                                                                                                                                                         |
|----------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable extinguishing media</b>                                  | Powder. Alcohol resistant foam. Carbon dioxide (CO2).                                                                                                                                                                                                                                                                   |
| <b>Unsuitable extinguishing media</b>                                | Do not use a solid water stream as it may scatter and spread fire.                                                                                                                                                                                                                                                      |
| <b>Specific hazards arising from the chemical</b>                    | Contents under pressure. Pressurized container may explode when exposed to heat or flame.                                                                                                                                                                                                                               |
| <b>Special protective equipment and precautions for firefighters</b> | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.                                                                                                                                                        |
| <b>Fire fighting equipment/instructions</b>                          | Move containers from fire area if you can do so without risk. Containers should be cooled with water to prevent vapor pressure build up. For massive fire in cargo area, use unmanned hose holder or monitor nozzles, if possible. If not, withdraw and let fire burn out. Water runoff can cause environmental damage. |
| <b>Specific methods</b>                                              | Use standard firefighting procedures and consider the hazards of other involved materials. Move container from fire area if it can be done without risk. In the event of fire and/or explosion do not breathe fumes.                                                                                                    |
| <b>General fire hazards</b>                                          | Extremely flammable aerosol.                                                                                                                                                                                                                                                                                            |

### 6. Accidental release measures

|                                                                            |                                                                                                                                                                                                                                                                                                                                                                                             |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Personal precautions, protective equipment and emergency procedures</b> | Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate personal protective equipment. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. |
|----------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

**Methods and materials for containment and cleaning up**

Refer to attached safety data sheets and/or instructions for use. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. The product is immiscible with water and will spread on the water surface. Stop leak if you can do so without risk. Move the cylinder to a safe and open area if the leak is irreparable. Isolate area until gas has dispersed. Collect spillage. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.

**Environmental precautions**

Avoid release to the environment. Contact local authorities in case of spillage to drain/aquatic environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water. Avoid discharge into drains, water courses or onto the ground.

**7. Handling and storage****Precautions for safe handling**

Pressurized container: Do not pierce or burn, even after use. Do not use if spray button is missing or defective. Do not spray on a naked flame or any other incandescent material. Do not smoke while using or until sprayed surface is thoroughly dry. Do not cut, weld, solder, drill, grind, or expose containers to heat, flame, sparks, or other sources of ignition. All equipment used when handling the product must be grounded. Avoid breathing gas. Avoid contact with skin. Avoid contact with eyes. Avoid prolonged exposure. Use only in well-ventilated areas. Wear appropriate personal protective equipment. Observe good industrial hygiene practices. Wash hands thoroughly after handling. Avoid release to the environment.

**Conditions for safe storage, including any incompatibilities**

Level 3 Aerosol.

Pressurized container. Protect from sunlight and do not expose to temperatures exceeding 50°C/122 °F. Do not puncture, incinerate or crush. Do not handle or store near an open flame, heat or other sources of ignition. Store locked up.

**8. Exposure controls/personal protection****Occupational exposure limits****U.S. - OSHA  
Components**

| Components                                                      | Type | Value   | Form     |
|-----------------------------------------------------------------|------|---------|----------|
| Distillates Petroleum<br>Hydrotreated Light (CAS<br>64742-47-8) | PEL  | 5 mg/m3 | Oil mist |

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)  
Components**

| Components            | Type | Value                  |
|-----------------------|------|------------------------|
| Acetone (CAS 67-64-1) | PEL  | 2400 mg/m3<br>1000 ppm |

**ACGIH  
Components**

| Components                                                      | Type | Value   | Form     |
|-----------------------------------------------------------------|------|---------|----------|
| Distillates Petroleum<br>Hydrotreated Light (CAS<br>64742-47-8) | TWA  | 5 mg/m3 | Oil mist |

**US. ACGIH Threshold Limit Values  
Components**

| Components            | Type | Value   |
|-----------------------|------|---------|
| Acetone (CAS 67-64-1) | STEL | 500 ppm |
|                       | TWA  | 250 ppm |

**US. NIOSH: Pocket Guide to Chemical Hazards  
Components**

| Components            | Type | Value                |
|-----------------------|------|----------------------|
| Acetone (CAS 67-64-1) | TWA  | 590 mg/m3<br>250 ppm |

**Biological limit values****ACGIH Biological Exposure Indices  
Components**

| Components            | Value   | Determinant | Specimen | Sampling Time |
|-----------------------|---------|-------------|----------|---------------|
| Acetone (CAS 67-64-1) | 25 mg/l | Acetone     | Urine    | *             |

\* - For sampling details, please see the source document.

|                                                                              |                                                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Appropriate engineering controls</b>                                      | Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. |
| <b>Individual protection measures, such as personal protective equipment</b> |                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Eye/face protection</b>                                                   | Wear safety glasses with side shields (or goggles). Eye wash fountain is recommended.                                                                                                                                                                                                                                                                                                         |
| <b>Skin protection</b>                                                       |                                                                                                                                                                                                                                                                                                                                                                                               |
| <b>Hand protection</b>                                                       | Chemical resistant gloves are recommended.                                                                                                                                                                                                                                                                                                                                                    |
| <b>Other</b>                                                                 | Avoid contact with clothing. Wear suitable protective clothing. Chemical resistant gloves.                                                                                                                                                                                                                                                                                                    |
| <b>Respiratory protection</b>                                                | No personal respiratory protective equipment normally required. Use a positive-pressure air-supplied respirator if there is any potential for an uncontrolled release, exposure levels are not known, or any other circumstances where air-purifying respirators may not provide adequate protection.                                                                                         |
| <b>Thermal hazards</b>                                                       | Not applicable.                                                                                                                                                                                                                                                                                                                                                                               |
| <b>General hygiene considerations</b>                                        | When using, do not eat, drink or smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.                                                                                                                                 |

## 9. Physical and chemical properties

|                                                     |                                  |
|-----------------------------------------------------|----------------------------------|
| <b>Appearance</b>                                   | Cloudy. Liquid.                  |
| <b>Physical state</b>                               | Gas.                             |
| <b>Form</b>                                         | Aerosol.                         |
| <b>Color</b>                                        | Brown.                           |
| <b>Odor</b>                                         | Mild. Cherry.                    |
| <b>Odor threshold</b>                               | Not available.                   |
| <b>pH</b>                                           | Not applicable                   |
| <b>Melting point/freezing point</b>                 | Not available.                   |
| <b>Initial boiling point and boiling range</b>      | Not available.                   |
| <b>Flash point</b>                                  | 64.4 °F (18.0 °C) Tag Closed Cup |
| <b>Evaporation rate</b>                             | 151 (Ethyl Ether)                |
| <b>Flammability (solid, gas)</b>                    | Flammable gas.                   |
| <b>Upper/lower flammability or explosive limits</b> |                                  |
| <b>Flammability limit - lower (%)</b>               | 0.6 %                            |
| <b>Flammability limit - upper (%)</b>               | 6 %                              |
| <b>Explosive limit - lower (%)</b>                  | Not available.                   |
| <b>Explosive limit - upper (%)</b>                  | Not available.                   |
| <b>Vapor pressure</b>                               | Not available.                   |
| <b>Vapor density</b>                                | Not available.                   |
| <b>Relative density</b>                             | Not available.                   |
| <b>Solubility(ies)</b>                              |                                  |
| <b>Solubility (water)</b>                           | Not available.                   |
| <b>Partition coefficient (n-octanol/water)</b>      | Not available.                   |
| <b>Auto-ignition temperature</b>                    | 446 °F (230 °C)                  |
| <b>Decomposition temperature</b>                    | Not available.                   |
| <b>Viscosity</b>                                    | Not available.                   |
| <b>Other information</b>                            |                                  |
| <b>Density</b>                                      | 7.28 lb/gal                      |
| <b>Percent volatile</b>                             | 63 - 82 %                        |
| <b>Specific gravity</b>                             | 0.87                             |

VOC

62.8 % per U.S. State and Federal Consumer Product Regulations

**10. Stability and reactivity**

|                                           |                                                                                                                                      |
|-------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Reactivity</b>                         | The product is stable and non-reactive under normal conditions of use, storage and transport.                                        |
| <b>Chemical stability</b>                 | Material is stable under normal conditions.                                                                                          |
| <b>Possibility of hazardous reactions</b> | Hazardous polymerization does not occur.                                                                                             |
| <b>Conditions to avoid</b>                | Avoid temperatures exceeding the flash point.                                                                                        |
| <b>Incompatible materials</b>             | Strong oxidizing agents.                                                                                                             |
| <b>Hazardous decomposition products</b>   | Upon decomposition this product emits acid dense smoke with carbon dioxide, carbon monoxide, water and other products of combustion. |

**11. Toxicological information****Information on likely routes of exposure**

|                     |                                                                                                                     |
|---------------------|---------------------------------------------------------------------------------------------------------------------|
| <b>Inhalation</b>   | Prolonged inhalation may be harmful.                                                                                |
| <b>Skin contact</b> | Causes skin irritation.                                                                                             |
| <b>Eye contact</b>  | Causes serious eye irritation.                                                                                      |
| <b>Ingestion</b>    | May cause discomfort if swallowed. However, ingestion is not likely to be a primary route of occupational exposure. |

**Symptoms related to the physical, chemical and toxicological characteristics** Irritating to eyes, respiratory system and skin. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

**Information on toxicological effects****Acute toxicity**

| Components                                                | Species | Test Results           |
|-----------------------------------------------------------|---------|------------------------|
| 1-butoxy-2-propanol (CAS 5131-66-8)                       |         |                        |
| <u><b>Acute</b></u>                                       |         |                        |
| <b>Dermal</b>                                             |         |                        |
| LD50                                                      | Rabbit  | 1400 mg/kg, 24 Hours   |
| <b>Oral</b>                                               |         |                        |
| LD50                                                      | Rat     | > 2000 mg/kg           |
| Acetone (CAS 67-64-1)                                     |         |                        |
| <u><b>Acute</b></u>                                       |         |                        |
| <b>Inhalation</b>                                         |         |                        |
| LC50                                                      | Rat     | 50 mg/l, 8 Hours       |
| <b>Oral</b>                                               |         |                        |
| LD50                                                      | Rat     | 5800 mg/kg             |
| Distillates Petroleum Hydrotreated Light (CAS 64742-47-8) |         |                        |
| <u><b>Acute</b></u>                                       |         |                        |
| <b>Dermal</b>                                             |         |                        |
| LD50                                                      | Rabbit  | > 2000 mg/kg           |
| <b>Inhalation</b>                                         |         |                        |
| <i>Vapor</i>                                              |         |                        |
| LC50                                                      | Rat     | > 0.1 mg/l, 8 Hours    |
| <b>Oral</b>                                               |         |                        |
| LD50                                                      | Rat     | > 5000 mg/kg           |
| Hydrodesulfurized Heavy Petroleum Naptha (CAS 64742-82-1) |         |                        |
| <u><b>Acute</b></u>                                       |         |                        |
| <b>Dermal</b>                                             |         |                        |
| LD50                                                      | Rabbit  | > 1900 mg/kg, 24 Hours |
| <b>Oral</b>                                               |         |                        |
| LD50                                                      | Rat     | 4800 mg/kg             |

| Components                                                            | Species                                                                                                          | Test Results           |
|-----------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------|------------------------|
| Petrolatum (CAS 8009-03-8)                                            |                                                                                                                  |                        |
| <u>Acute</u>                                                          |                                                                                                                  |                        |
| <b>Dermal</b>                                                         |                                                                                                                  |                        |
| LD50                                                                  | Rabbit                                                                                                           | > 2000 mg/kg, 24 Hours |
| <b>Oral</b>                                                           |                                                                                                                  |                        |
| LD50                                                                  | Rat                                                                                                              | > 5000 mg/kg           |
| <b>Skin corrosion/irritation</b>                                      | Causes skin irritation.                                                                                          |                        |
| <b>Serious eye damage/eye irritation</b>                              | Causes serious eye irritation.                                                                                   |                        |
| <b>Respiratory or skin sensitization</b>                              |                                                                                                                  |                        |
| <b>Respiratory sensitization</b>                                      | Not a respiratory sensitizer.                                                                                    |                        |
| <b>Skin sensitization</b>                                             | This product is not expected to cause skin sensitization.                                                        |                        |
| <b>Germ cell mutagenicity</b>                                         | No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. |                        |
| <b>Carcinogenicity</b>                                                | This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.                                  |                        |
| <b>ACGIH Carcinogens</b>                                              |                                                                                                                  |                        |
| Acetone (CAS 67-64-1)                                                 | A4 Not classifiable as a human carcinogen.                                                                       |                        |
| <b>IARC Monographs. Overall Evaluation of Carcinogenicity</b>         |                                                                                                                  |                        |
| Not listed.                                                           |                                                                                                                  |                        |
| <b>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)</b> |                                                                                                                  |                        |
| Not listed.                                                           |                                                                                                                  |                        |
| <b>US. National Toxicology Program (NTP) Report on Carcinogens</b>    |                                                                                                                  |                        |
| Not listed.                                                           |                                                                                                                  |                        |
| <b>Reproductive toxicity</b>                                          | This product is not expected to cause reproductive or developmental effects.                                     |                        |
| <b>Specific target organ toxicity - single exposure</b>               | Not classified.                                                                                                  |                        |
| <b>Specific target organ toxicity - repeated exposure</b>             | Not classified.                                                                                                  |                        |
| <b>Aspiration hazard</b>                                              | Not likely, due to the form of the product.                                                                      |                        |
| <b>Chronic effects</b>                                                | Prolonged inhalation may be harmful.                                                                             |                        |
| <b>Further information</b>                                            | None known.                                                                                                      |                        |

## 12. Ecological information

|                                                           |                                                  |                                                     |                              |
|-----------------------------------------------------------|--------------------------------------------------|-----------------------------------------------------|------------------------------|
| Ecotoxicity                                               | Not expected to be harmful to aquatic organisms. |                                                     |                              |
| Components                                                | Species                                          |                                                     | Test Results                 |
| Acetone (CAS 67-64-1)                                     |                                                  |                                                     |                              |
| Aquatic                                                   |                                                  |                                                     |                              |
| Crustacea                                                 | EC50                                             | Water flea (Daphnia magna)                          | 10294 - 17704 mg/l, 48 hours |
| Fish                                                      | LC50                                             | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 4740 - 6330 mg/l, 96 hours   |
| Distillates Petroleum Hydrotreated Light (CAS 64742-47-8) |                                                  |                                                     |                              |
| Aquatic                                                   |                                                  |                                                     |                              |
| Fish                                                      | LC50                                             | Rainbow trout,donaldson trout (Oncorhynchus mykiss) | 2.9 mg/l, 96 hours           |
| Persistence and degradability                             | Not inherently biodegradable.                    |                                                     |                              |
| Bioaccumulative potential                                 | No data available for this product.              |                                                     |                              |
| Partition coefficient n-octanol / water (log Kow)         |                                                  |                                                     |                              |
| Acetone                                                   | -0.24                                            |                                                     |                              |
| Mobility in soil                                          | Not available.                                   |                                                     |                              |
| Other adverse effects                                     | None known.                                      |                                                     |                              |

### 13. Disposal considerations

|                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|----------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Disposal instructions</b>                 | Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Contents under pressure. Do not puncture, incinerate or crush. This material and its container must be disposed of as hazardous waste. Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations. |
| <b>Hazardous waste code</b>                  | D001: Waste Flammable material with a flash point <140 F<br>D003: Waste Reactive material                                                                                                                                                                                                                                                                                                                                                                                       |
| <b>Waste from residues / unused products</b> | Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).                                                                                                                                                                                                                                                                |
| <b>Contaminated packaging</b>                | Empty containers should be taken to an approved waste handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied. Do not re-use empty containers.                                                                                                                                                                                                                                      |

### 14. Transport information

#### DOT

|                                     |                     |
|-------------------------------------|---------------------|
| <b>UN number</b>                    | UN1950              |
| <b>UN proper shipping name</b>      | Aerosols, flammable |
| <b>Transport hazard class(es)</b>   |                     |
| <b>Class</b>                        | 2.1                 |
| <b>Subsidiary risk</b>              | -                   |
| <b>Label(s)</b>                     | 2.1                 |
| <b>Packing group</b>                | Not available.      |
| <b>Environmental hazards</b>        |                     |
| <b>Marine pollutant</b>             | No                  |
| <b>Special precautions for user</b> | Not available.      |
| <b>Special provisions</b>           | N82                 |
| <b>Packaging exceptions</b>         | 306                 |
| <b>Packaging non bulk</b>           | None                |
| <b>Packaging bulk</b>               | None                |

#### IATA

|                                     |                            |
|-------------------------------------|----------------------------|
| <b>UN number</b>                    | UN1950                     |
| <b>UN proper shipping name</b>      | Aerosols, flammable        |
| <b>Transport hazard class(es)</b>   |                            |
| <b>Class</b>                        | 2.1                        |
| <b>Subsidiary risk</b>              | -                          |
| <b>Label(s)</b>                     | 2.1                        |
| <b>Packing group</b>                | Not available.             |
| <b>Environmental hazards</b>        | No.                        |
| <b>Special precautions for user</b> | Not available.             |
| <b>Other information</b>            |                            |
| <b>Passenger and cargo aircraft</b> | Allowed with restrictions. |
| <b>Cargo aircraft only</b>          | Allowed with restrictions. |

#### IMDG

|                                                                                 |                     |
|---------------------------------------------------------------------------------|---------------------|
| <b>UN number</b>                                                                | UN1950              |
| <b>UN proper shipping name</b>                                                  | Aerosols, flammable |
| <b>Transport hazard class(es)</b>                                               |                     |
| <b>Class</b>                                                                    | 2.1                 |
| <b>Subsidiary risk</b>                                                          | -                   |
| <b>Label(s)</b>                                                                 | 2.1                 |
| <b>Packing group</b>                                                            | Not available.      |
| <b>Environmental hazards</b>                                                    |                     |
| <b>Marine pollutant</b>                                                         | No                  |
| <b>EmS</b>                                                                      | Not available.      |
| <b>Special precautions for user</b>                                             | Not available.      |
| <b>Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code</b> | Not available.      |

DOT



IATA; IMDG



## 15. Regulatory information

### US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

#### Toxic Substances Control Act (TSCA)

##### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated.

#### CERCLA Hazardous Substance List (40 CFR 302.4)

Acetone (CAS 67-64-1)

Listed.

#### SARA 304 Emergency release notification

Not regulated.

#### OSHA Specifically Regulated Substances (29 CFR 1910.1001-1053)

Not listed.

### Superfund Amendments and Reauthorization Act of 1986 (SARA)

#### SARA 302 Extremely hazardous substance

Not listed.

#### SARA 311/312 Hazardous chemical

Yes

##### Classified hazard categories

Flammable (gases, aerosols, liquids, or solids)  
Gas under pressure  
Skin corrosion or irritation  
Serious eye damage or eye irritation

#### SARA 313 (TRI reporting)

Not regulated.

### Other federal regulations

#### Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs) List

Not regulated.

#### Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated.

#### Safe Drinking Water Act (SDWA)

Not regulated.

#### Drug Enforcement Administration (DEA). List 2, Essential Chemicals (21 CFR 1310.02(b) and 1310.04(f)(2) and Chemical Code Number

Acetone (CAS 67-64-1)

6532

#### Drug Enforcement Administration (DEA). List 1 & 2 Exempt Chemical Mixtures (21 CFR 1310.12(c))

Acetone (CAS 67-64-1)

35 %WV

**DEA Exempt Chemical Mixtures Code Number**

Acetone (CAS 67-64-1)

6532

**FEMA Priority Substances Respiratory Health and Safety in the Flavor Manufacturing Workplace**

Acetone (CAS 67-64-1)

Low priority

**US state regulations****US. New Jersey Worker and Community Right-to-Know Act**

Acetone (CAS 67-64-1)

**California Proposition 65**

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

**US. California. Candidate Chemicals List. Safer Consumer Products Regulations (Cal. Code Regs, tit. 22, 69502.3, subd. (a))**

Acetone (CAS 67-64-1)

Distillates Petroleum Hydrotreated Heavy (CAS 64742-54-7)

Hydrosulfurized Heavy Petroleum Naptha (CAS 64742-82-1)

Petrolatum (CAS 8009-03-8)

**International Inventories**

| Country(s) or region        | Inventory name                                                         | On inventory (yes/no)* |
|-----------------------------|------------------------------------------------------------------------|------------------------|
| Australia                   | Australian Inventory of Chemical Substances (AICS)                     | No                     |
| Canada                      | Domestic Substances List (DSL)                                         | Yes                    |
| Canada                      | Non-Domestic Substances List (NDSL)                                    | No                     |
| China                       | Inventory of Existing Chemical Substances in China (IECSC)             | No                     |
| Europe                      | European Inventory of Existing Commercial Chemical Substances (EINECS) | No                     |
| Europe                      | European List of Notified Chemical Substances (ELINCS)                 | No                     |
| Japan                       | Inventory of Existing and New Chemical Substances (ENCS)               | No                     |
| Korea                       | Existing Chemicals List (ECL)                                          | No                     |
| New Zealand                 | New Zealand Inventory                                                  | No                     |
| Philippines                 | Philippine Inventory of Chemicals and Chemical Substances (PICCS)      | No                     |
| Taiwan                      | Taiwan Chemical Substance Inventory (TCSI)                             | No                     |
| United States & Puerto Rico | Toxic Substances Control Act (TSCA) Inventory                          | Yes                    |

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

**16. Other information, including date of preparation or last revision**

**Issue date** 10-14-2015

**Revision date** 11-04-2019

**Version #** 10

**Disclaimer** The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

**Revision information** Hazard(s) identification: Hazard statement  
Hazard(s) identification: Response  
Hazard(s) identification: Storage  
Composition / Information on Ingredients: Disclosure Overrides  
GHS: Classification

**TABLE D-1  
FACILITY MAXIMUM PROJECTED ACTUAL EMISSIONS  
JLG INDUSTRIES, INC. - JEFFERSON CITY, TN 10-23-2023**

| Source ID                                                         | Source Description                                         | PM10/PM2.5 |           | SO2      |           | NOx      |           | VOC      |           | CO       |           | HAPs     |           | CO2      |           | CH4      |           | N2O      |           | CO2e     |           |
|-------------------------------------------------------------------|------------------------------------------------------------|------------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|----------|-----------|
|                                                                   |                                                            | (lbs/hr)   | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) | (lbs/hr) | (tons/yr) |
| New Operations                                                    |                                                            |            |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |
| 01                                                                | Shot Blast Booth #1                                        | 1.20       | 5.26      |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |
| Insig                                                             | Pretreatment Wash #1 - Combustion                          | 0.06       | 0.24      | 0.00     | 0.02      | 0.74     | 3.22      | 0.04     | 0.18      | 0.62     | 2.71      | Neg.     | Neg.      | 877.33   | 3842.70   | 1.65E-02 | 0.07      | 1.65E-03 | 7.24E-03  | 878.23   | 3846.67   |
|                                                                   | Moisture Drying Oven #1 - Combustion                       | 0.03       | 0.11      | 0.00     | 0.01      | 0.34     | 1.50      | 0.02     | 0.08      | 0.29     | 1.26      | Neg.     | Neg.      | 409.42   | 1793.26   | 0.01     | 3.38E-02  | 7.72E-04 | 3.38E-03  | 409.84   | 1,795.11  |
| 02                                                                | Primer Booth #1/Primer Flash Tunnel #1 - Surface Coating   | 0.16       | 0.70      |          |           |          |           | 14.88    | 65.15     |          |           | 0.37     | 1.64      |          |           |          |           |          |           |          |           |
|                                                                   | Primer Booth #1/Primer Flash Tunnel #1 - Combustion        | 0.02       | 0.08      | 0.00     | 0.01      | 0.25     | 1.07      | 0.01     | 0.06      | 0.21     | 0.90      | Neg.     | Neg.      | 292.44   | 1280.9    | 0.01     | 2.41E-02  | 5.51E-04 | 3.41E-03  | 292.74   | 1,282.22  |
| 03                                                                | Topcoat Booth #1/Topcoat Flash Tunnel #1 - Surface Coating | 0.09       | 0.40      |          |           |          |           | 13.96    | 61.16     |          |           | 0.03     | 0.14      |          |           |          |           |          |           |          |           |
|                                                                   | Topcoat Booth #1/Topcoat Flash Tunnel #1 - Combustion      | 0.02       | 0.08      | 0.00     | 0.01      | 0.25     | 1.07      | 0.01     | 0.06      | 0.21     | 0.90      | Neg.     | Neg.      | 292.44   | 1280.9    | 0.01     | 2.41E-02  | 5.51E-04 | 2.41E-03  | 292.74   | 1,282.22  |
| 04                                                                | Paint Cure Oven #1 - Combustion                            | 0.04       | 0.16      | 0.00     | 0.01      | 0.49     | 2.15      | 0.03     | 0.12      | 0.41     | 1.80      | Neg.     | Neg.      | 584.89   | 2561.80   | 1.10E-02 | 4.83E-02  | 1.10E-03 | 4.83E-03  | 585.49   | 2564.45   |
| 05                                                                | Off-Line Touch Up Booth/Oven #1 - Surface Coating          | 0.00       | 0.00      |          |           |          |           | 0.06     | 0.25      |          |           | 0.00     | 0.01      |          |           |          |           |          |           |          |           |
|                                                                   | Off-Line Touch Up Booth/Oven #1 - Combustion               | 0.04       | 0.20      | 0.00     | 0.02      | 0.59     | 2.58      | 0.03     | 0.14      | 0.49     | 2.16      | Neg.     | Neg.      | 701.86   | 3,074.16  | 1.32E-02 | 5.79E-02  | 1.32E-03 | 5.79E-03  | 702.59   | 3,077.33  |
| Existing Operations                                               |                                                            |            |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |
| 06                                                                | Emergency Generator                                        | 0.04       | 0.01      | 0.00     | 0.00      | 4.43     | 1.11      | 0.06     | 0.01      | 7.26     | 1.82      | 0.00     | 0.00      | 228.34   | 57.08     | 4.30E-03 | 0.00      | 4.30E-04 | 1.08E-04  | 228.58   | 57.14     |
| Insig                                                             | Eight (8) Heating/Cooling Units                            | 0.06       | 0.26      | 0.00     | 0.02      | 0.78     | 3.44      | 0.04     | 0.19      | 0.66     | 2.89      | Neg.     | Neg.      | 935.82   | 4,098.88  | 1.76E-02 | 0.08      | 1.76E-03 | 7.72E-03  | 936.78   | 4,103.11  |
| Insig                                                             | Two (2) Heating/Cooling Units                              | 0.04       | 0.20      | 0.00     | 0.02      | 0.59     | 2.58      | 0.03     | 0.14      | 0.49     | 2.16      | Neg.     | Neg.      | 701.86   | 3,074.16  | 1.32E-02 | 0.06      | 1.32E-03 | 5.79E-03  | 702.59   | 3,077.33  |
| Miscellaneous (new)                                               |                                                            |            |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |          |           |
| Insig                                                             | Welding Operations                                         | 0.10       | 0.24      |          |           |          |           |          |           |          |           | Neg.     | Neg.      |          |           |          |           |          |           |          |           |
| Insig                                                             | 40 GPM Wastewater Treatment System                         | N/A        | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       |
| Insig                                                             | 30 GPM Reverse Osmosis System                              | N/A        | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       |
| Insig                                                             | Paint Circulation System With Graco Smart Kitchen          | N/A        | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       | N/A      | N/A       |
| Total (Max Projected Actual)                                      |                                                            | 1.89       | 7.95      | 0.03     | 0.11      | 8.45     | 18.71     | 29.18    | 127.55    | 10.64    | 16.60     | 0.41     | 1.79      | 5,024.40 | 21,062.84 | 0.09     | 0.40      | 0.01     | 0.04      | 5,029.59 | 21,085.59 |
| Total (Allowable @3.5 lbs./gal, 0.01 gr/scf See Am D 001-31-2023) |                                                            | 12.34      | 53.91     | 0.03     | 0.11      | 8.45     | 18.71     | 44.57    | 194.98    | 10.64    | 16.60     | 2.21     | 9.70      | 5,024.40 | 21,062.84 | 0.09     | 0.40      | 0.01     | 0.04      | 5,029.59 | 21,085.59 |

TABLE D-2  
SURFACE COATING OPERATIONS - MAXIMUM PROJECTED ACTUAL EMISSIONS  
JLG INDUSTRIES, INC. - JEFFERSON CITY, TN 10-23-2023

| Source                                                                        | Frames<br>(#/hr) | Booms<br>(ft/row) | Material              | Frames<br>(#/hr) | Booms<br>(ft/row) | Material Throughput |          |         |          |         | Coating Density<br>(lb/gal) | VOC Content<br>(wt%) | HAP Content<br>(wt%) | Solids Content<br>(wt%) | Operating<br>Schedule<br>(hr/yr) | VOC Emissions |         | HAP Emissions |         | PM <sub>10</sub> /PM <sub>2.5</sub> Emissions<br>(Pre-Control) |         | PM <sub>10</sub> /PM <sub>2.5</sub> Emissions<br>(Post-Control) |        |
|-------------------------------------------------------------------------------|------------------|-------------------|-----------------------|------------------|-------------------|---------------------|----------|---------|----------|---------|-----------------------------|----------------------|----------------------|-------------------------|----------------------------------|---------------|---------|---------------|---------|----------------------------------------------------------------|---------|-----------------------------------------------------------------|--------|
|                                                                               |                  |                   |                       |                  |                   | gal/hr              | gal/boom | gal/row | gal/boom | gal/row |                             |                      |                      |                         |                                  | (lb/yr)       | (lb/yr) | (lb/yr)       | (lb/yr) | (lb/yr)                                                        | (lb/yr) | (lb/yr)                                                         |        |
| Primer Booth - 100%                                                           | 375              | 1,313             | Primer (as applied)   | 1.86             | 6.56              | 6.12                | 169.93   | 1051.33 | 4408.79  | 33,625  | 12.24                       | 18.90%               | 0.3%                 | 71.3%                   | 8,760                            | 14.16         | 62.03   | 0.37          | 1.64    | 16.03                                                          | 70.20   | 0.36                                                            | 0.78   |
|                                                                               |                  |                   | Late Flushing Solvent | 0.72             | 2.19              | 1.04                | 40.53    | 228.09  | 1473.32  | 16,983  | 6.46                        | 28.50%               | 0.0%                 | 0.0%                    | 8,760                            | 0.71          | 3.13    | 0.00          | 0.00    | 0.00                                                           | 0.00    | 0.00                                                            | 0.00   |
| Total                                                                         |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         | 8,760                            | 14.88         | 65.15   | 0.37          | 1.64    | 16.03                                                          | 70.20   | 0.36                                                            | 0.78   |
| Primer Booth - 90%                                                            | 360              | 1,080             | Primer (as applied)   | 1.86             | 6.56              | 4.90                | 137.53   | 823.80  | 3373.80  | 22,980  | 12.24                       | 18.90%               | 0.3%                 | 71.3%                   | 8,760                            | 11.53         | 49.62   | 0.30          | 1.31    | 11.52                                                          | 58.18   | 0.31                                                            | 0.76   |
|                                                                               |                  |                   | Late Flushing Solvent | 0.72             | 2.19              | 1.04                | 37.22    | 203.29  | 1132.20  | 13,588  | 6.46                        | 28.50%               | 0.0%                 | 0.0%                    | 8,760                            | 0.87          | 2.50    | 0.00          | 0.00    | 0.00                                                           | 0.00    | 0.00                                                            | 0.00   |
| Total                                                                         |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         | 8,760                            | 12.40         | 52.12   | 0.30          | 1.31    | 12.42                                                          | 58.18   | 0.31                                                            | 0.76   |
| Topcoat Booth - 100%                                                          | 375              | 1,313             | Topcoat (as applied)  | 1.86             | 6.56              | 6.12                | 169.93   | 1051.33 | 4408.79  | 33,625  | 8.76                        | 24.71%               | 0.06%                | 36.83%                  | 8,760                            | 13.23         | 38.04   | 0.03          | 0.14    | 9.13                                                           | 40.06   | 0.09                                                            | 0.46   |
|                                                                               |                  |                   | Late Flushing Solvent | 0.52             | 0.16              | 1.04                | 40.53    | 228.09  | 1473.32  | 16,983  | 8.76                        | 24.71%               | 0.0%                 | 0.0%                    | 8,760                            | 0.71          | 3.13    | 0.00          | 0.00    | 0.00                                                           | 0.00    | 0.00                                                            | 0.00   |
| Total                                                                         |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         | 8,760                            | 13.94         | 41.18   | 0.03          | 0.14    | 9.13                                                           | 40.06   | 0.09                                                            | 0.46   |
| Topcoat Booth - 80%                                                           | 360              | 1,080             | Topcoat (as applied)  | 1.86             | 6.56              | 4.90                | 137.53   | 823.80  | 3373.80  | 22,980  | 8.76                        | 24.71%               | 0.06%                | 36.83%                  | 8,760                            | 10.66         | 46.43   | 0.03          | 0.11    | 7.32                                                           | 32.03   | 0.07                                                            | 0.33   |
|                                                                               |                  |                   | Late Flushing Solvent | 0.72             | 0.16              | 1.04                | 37.22    | 203.29  | 1132.20  | 13,588  | 8.76                        | 24.71%               | 0.0%                 | 0.0%                    | 8,760                            | 0.87          | 2.50    | 0.00          | 0.00    | 0.00                                                           | 0.00    | 0.00                                                            | 0.00   |
| Total                                                                         |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         | 8,760                            | 11.53         | 48.93   | 0.03          | 0.11    | 7.32                                                           | 32.03   | 0.07                                                            | 0.33   |
| Touchup Booth 100%                                                            | 50               |                   | Touchup (as applied)  | 0.08             | 0.02              | 0.27                | 4.00     | 17.33   | 208      | 12.24   | 18.90%                      | 0.5%                 | 71.3%                | 8,760                   | 0.07                             | 0.24          | 0.00    | 0.01          | 0.08    | 0.24                                                           | 0.0009  | 0.0027                                                          |        |
|                                                                               |                  |                   | Late Flushing Solvent | 0.03             | 0.00              | 0.00                | 0.00     | 1.27    | 5.49     | 66      | 6.46                        | 28.50%               | 0.0%                 | 0.0%                    | 8,760                            | 0.00          | 0.01    | 0.00          | 0.00    | 0.00                                                           | 0.0000  | 0.0000                                                          |        |
| Total                                                                         |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         | 8,760                            | 0.06          | 0.25    | 0.00          | 0.01    | 0.08                                                           | 0.24    | 0.0009                                                          | 0.0027 |
| Touchup Booth - 80%                                                           | 40               |                   | Touchup (as applied)  | 0.08             | 0.02              | 0.40                | 2.20     | 13.4    | 160      | 12.24   | 18.90%                      | 0.5%                 | 71.3%                | 8,760                   | 0.04                             | 0.19          | 0.00    | 0.01          | 0.03    | 0.22                                                           | 0.00    | 0.00                                                            |        |
|                                                                               |                  |                   | Late Flushing Solvent | 0.03             | 0.00              | 0.00                | 0.00     | 1.31    | 4.30     | 53      | 6.46                        | 28.50%               | 0.0%                 | 0.0%                    | 8,760                            | 0.00          | 0.01    | 0.00          | 0.00    | 0.00                                                           | 0.00    | 0.00                                                            |        |
| Total                                                                         |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         | 8,760                            | 0.04          | 0.20    | 0.00          | 0.01    | 0.22                                                           | 0.0000  | 0.0000                                                          |        |
| All Booths - 100% (Max Projected Actual)                                      |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         |                                  | 28.08         | 126.27  | 0.41          | 1.79    | 27.24                                                          | 110.33  | 0.25                                                            | 1.11   |
| All Booths - 80% (Max Projected Actual)                                       |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         |                                  | 25.12         | 101.28  | 0.33          | 1.43    | 24.19                                                          | 98.42   | 0.20                                                            | 0.88   |
| All Booths - 100% (Allowable w/ 2.5 lbs/gal, 0.01 #/#) (See Air D 10-21-2023) |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         |                                  | 44.20         | 194.01  | 2.21          | 9.10    | 56.03                                                          | 26.03   | 0.43                                                            | 21.20  |
| All Booths - 80% (Allowable w/ 2.5 lbs/gal, 0.01 #/#) (See Air D 10-21-2023)  |                  |                   |                       |                  |                   |                     |          |         |          |         |                             |                      |                      |                         |                                  | 35.44         | 135.21  | 1.77          | 7.46    | 50.03                                                          | 20.00   | 0.43                                                            | 21.20  |

Hourly data weekly monthly averages

Primer: PPG DUTYBOY 24 VOC (6.12 lb/gal) 99.99% (Actual HAP content is 0.3%)  
Topcoat: DUTYBOY 24 VOC (6.12 lb/gal) 99.99% (Actual HAP content is 0.06%)  
Late Flushing Solvent: DUTYBOY 24 VOC (6.46 lb/gal) 99.99% (Actual HAP content is 0.0%)

Coating VOC HAP content based on 100% solids content  
Late Flushing Solvent VOC HAP content based on 20% solids content (100% w/ 2.5 lbs/gal, 0.01 #/#)  
Emissions based on 100% solids content (100% w/ 2.5 lbs/gal, 0.01 #/#) (See Air D 10-21-2023)

**TABLE D-3**  
**MAXIMUM PROJECTED ACTUAL PM EMISSIONS - BLAST OPERATIONS**  
**JLG INDUSTRIES, INC. - JEFFERSON CITY, TN 10-23-23**

| Source ID                                 | Source           | Maximum Power for All Wheels <sup>a</sup><br>(Total hp) | Pollutant     | Shot Breakdown Rate <sup>b</sup><br>(lbs/hp-hr) | Maximum Annual Hours of Operation | Uncontrolled |          | Controlled |          |
|-------------------------------------------|------------------|---------------------------------------------------------|---------------|-------------------------------------------------|-----------------------------------|--------------|----------|------------|----------|
|                                           |                  |                                                         |               |                                                 |                                   | (lb/hr)      | (ton/yr) | (lb/hr)    | (ton/yr) |
| Blast Supplier Emission Factor and 99% CE |                  |                                                         |               |                                                 |                                   |              |          |            |          |
| 01                                        | Shot Blast Booth | 240                                                     | PM/PM10/PM2.5 | 0.5                                             | 8,760                             | 120          | 526      | 1.20       | 5.26     |

The shot blast operation are equipped with 12, 20 HP blast wheels at 650 lbs shot/minute, each. (7,800 lbs/minute, total)

The supplier indicates that shot is consumed (breaks down into fines) at a rate of 0.5 lbs/hp-hr. The emission factor assumes that all of these fines are collected by the 30,000 cfm fabric filter. The blast operations is are equipped are equipped with separate a mechanical fines collection and separation system, so the emission factor is most likely conservatively high.

Controlled emission rates estimated using a 99% collections efficiency. The DeltaMAXX Nano cartridge collectors are actually rated at 99.8% collection efficacy (Per mfg).

TABLE D-4  
NATURAL GAS COMBUSTION - EXTERNAL COMBUSTION  
JLG INDUSTRIES, INC. - JEFFERSON CITY, TN 10-23-2023

| Source ID           | Source Description                                 | Manufacturer                 | Model Number              | # Burners | MMBtu Each | Total MMBtu/hr | Max. Operating Schedule | Emission Factors (Est. Comb. - lb/MMBtu, Int. Comb. - lb/MMBtu) <sup>a</sup> |          |      |          | PM/PM10/PM2.5 |         | SO2       |          | NOx       |         | VOC       |         | CO        |       |       |
|---------------------|----------------------------------------------------|------------------------------|---------------------------|-----------|------------|----------------|-------------------------|------------------------------------------------------------------------------|----------|------|----------|---------------|---------|-----------|----------|-----------|---------|-----------|---------|-----------|-------|-------|
|                     |                                                    |                              |                           |           |            |                |                         | PM10/PM2.5                                                                   | SO2      | NOx  | VOC      | CO            | (lb/hr) | (tons/yr) | (lb/hr)  | (tons/yr) | (lb/hr) | (tons/yr) | (lb/hr) | (tons/yr) |       |       |
| New Operations      |                                                    |                              |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| 01                  | Shot Blast Booth #1                                | Blast Cleaning Technologies  | M12-10000                 | N/A       | N/A        |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Integ.              | Permanent Wash #1                                  | Belo Industries Incorporated | Custom                    | 1         | 3.00       | 3.00           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.3      | 84            | 0.04    | 0.16      | 2.94E-03 | 0.01      | 0.49    | 3.15      | 0.03    | 0.12      |       |       |
|                     |                                                    |                              |                           | 1         | 2.50       | 2.50           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.2      | 84            | 0.02    | 0.08      | 1.47E-03 | 0.01      | 0.23    | 1.07      | 0.01    | 0.06      |       |       |
|                     |                                                    |                              |                           | 1         | 3.50       | 3.50           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.5      | 84            | 0.03    | 0.11      | 2.94E-03 | 0.01      | 0.34    | 1.50      | 0.02    | 0.08      |       |       |
| 02                  | Primer Booth #1                                    | Belo Industries Incorporated | 40TPD03036                | 1         | 2.30       | 2.30           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.3      | 84            | 0.02    | 0.08      | 1.47E-03 | 0.01      | 0.23    | 1.07      | 0.01    | 0.06      |       |       |
|                     | Primer Flash Tunnel #1                             | Belo Industries Incorporated |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| 03                  | Topcoat Booth #1                                   | Belo Industries Incorporated | 40TPD03036                | 1         | 2.30       | 2.30           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.3      | 84            | 0.02    | 0.08      | 1.47E-03 | 0.01      | 0.23    | 1.07      | 0.01    | 0.06      |       |       |
|                     | Topcoat Flash Tunnel                               | Belo Industries Incorporated |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| 04                  | Paint Cure Oven #1                                 | Belo Industries Incorporated | 33.6' L x 22.6' H x 72' L | 1         | 2.50       | 2.50           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.4      | 84            | 0.02    | 0.08      | 1.47E-03 | 0.01      | 0.23    | 1.07      | 0.01    | 0.06      |       |       |
|                     |                                                    |                              |                           | 1         | 2.50       | 2.50           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.3      | 84            | 0.02    | 0.08      | 1.47E-03 | 0.01      | 0.23    | 1.07      | 0.01    | 0.06      |       |       |
| 05                  | Off-Line Touch Up Booth-Oven #1                    | GFS                          | 18' W x 14' H x 70' L     | 2         | 3.00       | 6.00           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.3      | 84            | 0.04    | 0.20      | 3.33E-03 | 0.02      | 0.49    | 2.58      | 0.03    | 0.14      |       |       |
| Existing Operations |                                                    |                              |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Integ.              | Welding Operations - Outback                       |                              |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Integ.              | Welding Operations - Pylon                         |                              |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Integ.              | Emergency Generator                                | Cummins                      | GKKD-556A031 (150 kW)     | 1         | 1.95       | 1.95           | 300                     | 1.66E-02                                                                     | 5.96E-04 | 2.27 | 2.96E-02 | 3.72          | 0.04    | 0.01      | 1.13E-01 | 2.67E-04  | 4.83    | 1.11      | 0.06    | 0.03      |       |       |
| Integ.              | Eight (8) Heating Cooling Units                    |                              |                           | 8         | 1.00       | 8.00           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.3      | 84            | 0.04    | 0.20      | 3.33E-03 | 0.02      | 0.78    | 2.44      | 0.04    | 0.19      |       |       |
| Integ.              | Two (2) Heating Cooling Units                      |                              |                           | 2         | 3.00       | 6.00           | 8,760                   | 7.6                                                                          | 0.6      | 100  | 3.3      | 84            | 0.04    | 0.20      | 3.33E-03 | 0.02      | 0.59    | 2.58      | 0.03    | 0.14      |       |       |
| Miscellaneous (hrs) |                                                    |                              |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Integ.              | 40 GPM Wastewater Treatment System-Air             | Custom                       |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Integ.              | 30 GPM Reverse Osmosis System                      |                              |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Integ.              | Paint Circulation System With Green Smart Kitchens |                              |                           |           |            |                |                         |                                                                              |          |      |          |               |         |           |          |           |         |           |         |           |       |       |
| Total               |                                                    |                              |                           |           |            |                |                         |                                                                              |          |      |          |               | 0.34    | 1.33      | 0.03     | 0.11      | 0.45    | 18.71     | 0.28    | 0.08      | 10.64 | 10.60 |

<sup>a</sup> Emission factors for natural gas combustion are EPA AP-42 Section 3.6, Tables 3.6-1 and 3.6-2 and Section 3.2, Natural Gas Fuel B, Equations 3-6a

| Source ID                  | Source Description                                 | Manufacturer                 | Model Number              | # Burners | MMBtu Each | Total MMBtu/hr | Max. Operating Schedule | Emission Factors (lb/MMBtu) <sup>a</sup> |                 |                  | CO <sub>2</sub> |             | CH <sub>4</sub> |             | N <sub>2</sub> O |             | CO <sub>2</sub> e |             |
|----------------------------|----------------------------------------------------|------------------------------|---------------------------|-----------|------------|----------------|-------------------------|------------------------------------------|-----------------|------------------|-----------------|-------------|-----------------|-------------|------------------|-------------|-------------------|-------------|
|                            |                                                    |                              |                           |           |            |                |                         | CO <sub>2</sub>                          | CH <sub>4</sub> | N <sub>2</sub> O | (lb/hr)         | (tons/yr)   | (lb/hr)         | (tons/yr)   | (lb/hr)          | (tons/yr)   | (lb/hr)           | (tons/yr)   |
| <b>New Operations</b>      |                                                    |                              |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| 01                         | Shot Blast Booth #1                                | Blast Cleaning Technologies  | M12-10000                 | N/A       | N/A        |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| Integ.                     | Permanent Wash #1                                  | Belo Industries Incorporated | Custom                    | 1         | 3.00       | 3.00           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 594.89          | 3261.80     | 1.19E-02        | 0.03        | 1.10E-03         | 4.00E-03    | 585.49            | 2594.43     |
|                            | Moisture Drying Oven #1                            | Belo Industries Incorporated | Custom                    | 1         | 3.50       | 3.50           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 597.44          | 3280.90     | 2.51E-03        | 0.02        | 2.71E-04         | 2.41E-03    | 292.74            | 1282.22     |
|                            | Primer Booth #1                                    | Belo Industries Incorporated | 40TPD03036                | 1         | 2.30       | 2.30           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 409.42          | 1793.26     | 7.72E-03        | 0.03        | 7.72E-04         | 3.33E-03    | 409.44            | 1793.27     |
| 02                         | Primer Booth #1                                    | Belo Industries Incorporated | 40TPD03036                | 1         | 2.30       | 2.30           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 292.44          | 1280.90     | 5.51E-03        | 0.02        | 5.51E-04         | 2.41E-03    | 292.74            | 1282.22     |
|                            | Primer Flash Tunnel #1                             | Belo Industries Incorporated |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| 03                         | Topcoat Booth #1                                   | Belo Industries Incorporated | 40TPD03036                | 1         | 2.30       | 2.30           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 292.44          | 1280.90     | 5.51E-03        | 0.02        | 5.51E-04         | 2.41E-03    | 292.74            | 1282.22     |
|                            | Topcoat Flash Tunnel                               | Belo Industries Incorporated |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| 04                         | Paint Cure Oven #1                                 | Belo Industries Incorporated | 33.6' L x 22.6' H x 72' L | 1         | 2.50       | 2.50           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 292.44          | 1280.90     | 5.51E-03        | 0.02        | 5.51E-04         | 2.41E-03    | 292.74            | 1282.22     |
|                            | Paint Cure Oven #1                                 | Belo Industries Incorporated | 33.6' L x 22.6' H x 72' L | 1         | 2.50       | 2.50           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 292.44          | 1280.90     | 5.51E-03        | 0.02        | 5.51E-04         | 2.41E-03    | 292.74            | 1282.22     |
| 05                         | Off-Line Touch Up Booth-Oven #1                    | GFS                          | 18' W x 14' H x 70' L     | 2         | 3.00       | 6.00           | 8,760.00                | 116.9771372                              | 0.00220462      | 0.000220462      | 701.8628232     | 3077.334116 | 0.01322772      | 0.057972414 | 0.001322772      | 0.005797241 | 702.4877503       | 3077.334116 |
| <b>Existing Operations</b> |                                                    |                              |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| Integ.                     | Emergency Generator                                | Cummins                      | GKKD-556A031 (150 kW)     | 1         | 1.95       | 1.95           | 300                     | 116.9771372                              | 0.00220462      | 0.000220462      | 276.5393716     | 57.03444205 | 0.004303416     | 0.001077435 | 0.000430342      | 0.000107743 | 226.2531991       | 27.14379976 |
| Integ.                     | Eight (8) Heating Cooling Units                    |                              |                           | 8         | 1.00       | 8.00           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 923.52          | 4099.68     | 1.74E-02        | 0.06        | 1.76E-03         | 7.72E-03    | 836.78            | 4183.11     |
| Integ.                     | Two (2) Heating Cooling Units                      |                              |                           | 2         | 3.00       | 6.00           | 8,760                   | 116.98                                   | 0.00220462      | 0.000220462      | 701.86          | 3074.16     | 1.31E-02        | 0.06        | 1.32E-03         | 5.79E-03    | 792.49            | 3077.33     |
| <b>Miscellaneous (hrs)</b> |                                                    |                              |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| Integ.                     | Welding Operations - Outback                       |                              |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| Integ.                     | Welding Operations - Pylon                         |                              |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| Integ.                     | 40 GPM Wastewater Treatment System-Air             | Custom                       |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| Integ.                     | 30 GPM Reverse Osmosis System                      |                              |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |
| Integ.                     | Paint Circulation System With Green Smart Kitchens |                              |                           |           |            |                |                         |                                          |                 |                  |                 |             |                 |             |                  |             |                   |             |

<sup>a</sup> Emission factors per EPA AP-42, Part 96

**TABLE D-5**  
**MAXIMUM PROJECTED ACTUAL PM EMISSIONS -WELDING OPERATIONS**  
**JLG INDUSTRIES, INC. - JEFFERSON CITY, TN 10-23-23**

| Source ID | Source             | Maximum<br>Electrode<br>Throughput<br>(lbs/yr) | Pollutant     | Uncontrolled<br>Emission Factor<br>(lbs/1000 lbs<br>Electrode<br>Consumed) | Uncontrolled<br>PM Emission Rates |          | Controlled<br>PM Emission Rates |          |
|-----------|--------------------|------------------------------------------------|---------------|----------------------------------------------------------------------------|-----------------------------------|----------|---------------------------------|----------|
|           |                    |                                                |               |                                                                            | (lb/hr)                           | (ton/yr) | (lb/hr)                         | (ton/yr) |
|           |                    |                                                |               |                                                                            |                                   |          |                                 |          |
| Insig.    | Welding Operations | 930,000                                        | PM/PM10/PM2.5 | 5.2                                                                        | 0.97                              | 2.42     | 0.10                            | 0.24     |
|           |                    |                                                |               |                                                                            |                                   |          |                                 |          |

Electrode throughput based on 50% of 2022 actual throughput for JLG's McConnellsburg, PA facility (0.5\*1.86 MM lbs.)

Uncontrolled emission factors for gas metal arc welding using E70S electrode per USEPA AP-42 Section 12.19 (01/1995). Hourly emissions were based on 5,000 hr/yr operation (similar to 2022 McConnellsburg.)

Controlled emission rates estimated using 90% control efficiency. The welding operations are located inside the facility and the majority of them are controlled by existing fume control equipment.