**From:** Julie Harse
**To:** Elizabeth Rorie
**Subject:** FW: Albemarle New Johnsonville (NPDES Permit TN0062537) TDEC MAO Notification
**Date:** Wednesday, December 13, 2017 3:13:49 PM

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Upload attached documents.

**From:** Randy.Reed@albemarle.com [mailto:Randy.Reed@albemarle.com]
**Sent:** Monday, December 11, 2017 4:09 PM
**To:** Julie Harse
**Cc:** Darrell.Fisher@albemarle.com; John.Stewart@albemarle.com; Lee Bagby; Robert Crowley
**Subject:** RE: Albemarle New Johnsonville (NPDES Permit TN0062537) TDEC MAO Notification

Hi Julie,

here are the SDSs for the 3 concentrations of MAO that can be stored in these portable tanks

Thanks,

Randy

**Randy Reed** | ALBEMARLE | Senior Advisor, SPS PSA | 856 Foote Lane, New Johnsonville, TN 37134| ☎: 931.535.6202 | ✆: 731.363.3750 | ✉: Randy.Reed@albemarle.com | www.albemarle.com

From: Julie Harse <Julie.Harse@tn.gov>
To: "Darrell.Fisher@albemarle.com" <Darrell.Fisher@albemarle.com>
Cc: Lee Bagby <Lee.Bagby@erm.com>, Robert Crowley <Robert.Crowley@erm.com>, "Randy.Reed@albemarle.com" <Randy.Reed@albemarle.com>, "John.Stewart@albemarle.com" <John.Stewart@albemarle.com>
Date: 12/11/2017 02:46 PM
Subject: RE: Albemarle New Johnsonville (NPDES Permit TN0062537) TDEC MAO Notification

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Do you have a material safety data sheet for the chemical that is stored in these tanks? Thanks.

**From:** Darrell.Fisher@albemarle.com [mailto:Darrell.Fisher@albemarle.com]
**Sent:** Thursday, December 7, 2017 4:33 PM
**To:** Julie Harse
**Cc:** Lee Bagby; Robert Crowley; Randy.Reed@albemarle.com; John.Stewart@albemarle.com
**Subject:** Albemarle New Johnsonville (NPDES Permit TN0062537) TDEC MAO Notification



Dear Ms. Harse

Please find attached a notification letter regarding Albemarle's New Johnsonville Site NPDES permit

TN0062537. I have also sent this to your attention via certified letter.

Regards,
Darrell Fisher

**Darrell Fisher** | ALBEMARLE | Operations Director Butyllithium & Specialties | 856 Foote Lane, New Johnsonville, TN 37134 | ☎: 931.535.6201 | ◑: 615.522.8976 | ✉: Darrell.Fisher@albemarle.com | www.albemarle.com

ALBEMARLE

www.albemarle-lithium.com

Please note that Rockwood Lithium has changed its brand to Albemarle and the legal company name from Rockwood Lithium Inc. to Albemarle U.S., Inc.
The e-Mail address of our users has now changed from **@rockwoodlithium.com** to **@albemarle.com**.

Make sure to update **your local directories**, master data and other files with the new e-Mail address and company name.



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ALBEMARLE®

# SAFETY DATA SHEET

## MAO <= 30% in Toluene

**Preparation Date :** 11-Mar-2015 **Revision Date:** 07-Oct-2015 **Revision Number:** 1.01

## 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

**Product Identifier**
**Product Name** MAO <= 30% in Toluene

**Other means of identification**
**Chemical Family** Organoaluminum Compound.

**Recommended use of the chemical and restrictions on use**
**General function** Catalyst.
**Uses advised against** No information available

**Details of the supplier of the safety data sheet**
**Company** Albemarle Corporation
451 Florida Street
Baton Rouge, LA 70801

**For Non-Emergency** 800-535-3030

**'Competent Body for SDS'** HSE@Albemarle.com

**Emergency telephone number**
**Emergency Telephone Numbers** +1-225-344-7147

## 2. HAZARDS IDENTIFICATION

**Classification**

| | |
|---|---|
| Skin Corrosion/irritation | Category 1 Sub-category B |
| Serious eye damage/eye irritation | Category 1 |
| Reproductive toxicity | Category 2 |
| Specific target organ toxicity (single exposure) | Category 3 - (H336) |
| Specific target organ toxicity (repeated exposure) | Category 2 |
| Aspiration toxicity | Category 1 |
| Acute aquatic toxicity | Category 2 |
| Chronic aquatic toxicity | Category 2 |
| Substances or mixtures which, in contact with water, emit flammable gases | Category 2 |
| Flammable liquids | Category 2 |

**Label elements**

**Emergency Overview**

**Danger**

**Hazard Statements**
Causes severe skin burns and eye damage
Suspected of damaging fertility or the unborn child
May cause drowsiness or dizziness
May cause damage to organs through prolonged or repeated exposure
Toxic to aquatic life with long lasting effects
May be fatal if swallowed and enters airways

In contact with water releases flammable gases
Highly flammable liquid and vapor

**Physical state** Liquid **Color** Clear. **Odor** Aromatic.

**Prevention**
Obtain special instructions before use
Do not handle until all safety precautions have been read and understood
Use personal protective equipment as required
Do not breathe dust/fume/gas/mist/vapors/spray
Wash face, hands and any exposed skin thoroughly after handling
Use only outdoors or in a well-ventilated area
Avoid release to the environment
Keep away from heat/sparks/open flames/hot surfaces. — No smoking
Keep container tightly closed
Ground/bond container and receiving equipment
Use explosion-proof electrical/ventilating/lighting/equipment
Use only non-sparking tools
Take precautionary measures against static discharge
Keep away from any possible contact with water, because of violent reaction and possible flash fire
Handle under inert gas. Protect from moisture
Keep cool

**Response**
Immediately call a POISON CENTER or doctor/physician
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/physician
IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower
Wash contaminated clothing before reuse
Brush off loose particles from skin. Immerse in cool water/wrap in wet bandages
IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing Immediately call a POISON CENTER or doctor/physician Call a POISON CENTER or doctor/physician if you feel unwell
IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician Do not induce vomiting Rinse mouth
In case of fire: Use CO2, dry chemical, or foam for extinction
Collect spillage

**Storage**
Store locked up
Store in a well-ventilated place. Keep container tightly closed
Store in a dry place

**Disposal**
Dispose of contents/container to an approved waste disposal plant

**Hazards not otherwise classified (HNOC)**
Not applicable
**Other Information**
• May be harmful if swallowed
• Reacts violently with water

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

**Pure substance/mixture** Mixture

| Component | CAS-No | Weight % |
|---|---|---|
| Toluene | 108-88-3 | >70 |
| Aluminoxanes, Me, Me group-terminated | 949495-39-0 | <=30 |
| Trimethylaluminium | 75-24-1 | <5 |

Note: The exact concentrations of the above listed chemicals are being withheld as a trade secret.

## 4. FIRST AID MEASURES

**First aid measures**

**General Advice** Immediate medical attention is required. Show this safety data sheet to the doctor in attendance.

**Eye contact** Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Immediately call a POISON CENTER or doctor/physician.

**Skin Contact** IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Contaminated clothing cannot be washed clean and should not be re-used for any purpose. Immediately call a POISON CENTER or doctor/physician. Metal alkyls and solutions of metal alkyls react with air and with body moisture. Immediate flushing with large volumes of water will kill residual alkyl, carry away the heat of reaction, and cool burned tissue. Such burns will be predominately thermal and should be treated medically as such. Immediate application of cold water has been found to reduce the severity of burns. For treatment of injury or shock, the services of a physician are required.

**Inhalation** IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing. If not breathing, give artificial respiration, preferably mouth to mouth. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. If breathing is difficult, give oxygen. Seek immediate medical attention/advice.

**Ingestion** Seek immediate medical attention/advice. Aspiration hazard if swallowed - can enter lungs and cause damage. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. If vomiting occurs spontaneously, keep head below hips to prevent aspiration. Never give anything by mouth to an unconscious person.

**Protection of First-aiders** Use personal protective equipment as required. Avoid contact with skin, eyes and clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation.

**Most important symptoms and effects, both acute and delayed**

**Symptoms** Causes severe skin burns and eye damage. Immediate symptoms : ocular burning sensation, blinking, tearing and pain. Initial symptoms may be followed by chest tightness and coughing, burning of the tongue and mouth, salivation and vomiting. Central nervous system effects may include headache, dizziness, nausea, vomiting, weakness, loss of coordination, blurred vision, drowsiness, confusion, or disorientation. Repeated or prolonged exposure may cause central nervous system damage.

**Indication of any immediate medical attention and special treatment needed**

**Notes to Physician** Treat symptomatically.

## 5. FIRE-FIGHTING MEASURES

**Extinguishing media**

**Suitable extinguishing media** (a) No standard methods have been developed for extinguishing large-scale aluminum alkyl solution fires. The use of dry chemical agents would typically require 10 units of dry chemical for every unit of alkyl. An appropriately designed water fog delivery system can be used to effectively control a burning or non-burning aluminum alkyl release. Water fog application will not extinguish the fire; however, water fog will accelerate the oxidation of the aluminum alkyl and is an effective media for controlling the temperature of the immediate surrounding area. The only sure way to extinguish the fire is to shut off the fuel (Alkyl) source.

**Unsuitable Extinguishing Media** Do not use direct application of concentrated water streams; application of water fog (mist) is quite acceptable. Water based foams, chemical foams, and halogenated extinguishers should NOT be used.

**Specific Hazards Arising from the Chemical**

**Combustion/explosion hazards** In case of fire and/or explosion do not breathe fumes. Highly volatile vapors which are heavier than air may accumulate in low areas and/or spread along ground away from handling site. A vapor accumulation may flash and/or explode if ignited.

**Hazardous Combustion Products** Flammable vapours and aluminium containing dust on exposure to water and moist air.

**Explosion Data**

**Sensitivity to mechanical impact** None.

**Sensitivity to static discharge** Yes.

**Protective Equipment and Precautions for Firefighters**

In those circumstances where there exists a high probability of contact with the liquid alkyls, personnel should wear aluminized safety suits over standard firefighting gear.

## 6. ACCIDENTAL RELEASE MEASURES

**Personal precautions, protective equipment and emergency procedures**

**Personal precautions** Ventilate the area. Spills of metal alkyl solutions may or may not spontaneously ignite depending upon conditions surrounding the spill. However most solutions will begin oxidizing and generating solvent vapors. As the solvent vaporizes the concentration of alkyl in the remaining solution may increase and possibly ignite. The flash point for solutions should be considered to be less than -48C. Additional precautions normally observed when handling the solvent should be followed when using solutions of metal alkyls Breathing of solvent vapors may cause headache, dizziness, nausea, vomiting and loss of consciousness. If signs or symptoms occur from breathing vapors, remove to fresh air. If breathing stops, apply artificial respiration, preferably mouth-to-mouth. Give oxygen, if needed. Get medical attention. Do NOT induce vomiting. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation

**Environmental Precautions**

**Environmental precautions** The following general procedures are recommended for spills or leaks involving portable containers of aluminum alkyl solutions. The runoff from a spill should be directed to a remote location away from any processing areas to a remotely located containment area and not allowed to enter closed sewers. The solution is reactive with water; therefore, any spillage could react violently with any free water. In the event of a spill or leak the areas should be isolated at a radius of 18 meters then evacuate the downwind area 0.16 km width and 0.32 km length.

**Methods and material for containment and cleaning up**

**Methods for Containment** Prevent further leakage or spillage if safe to do so.

**Methods for Cleaning up** Remove all sources of ignition as there is potential for a solvent vapor cloud. Water fog may be used to hasten the oxidation of the aluminum alkyl; otherwise, the area should be kept clear of all personnel until alkyl has been completely oxidized. Once the alkyls are oxidized the cleanup should follow the procedures associated with a solvent cleanup

## 7. HANDLING AND STORAGE

**Precautions for safe handling**

**Handling** Wear personal protective equipment. Keep away from open flames, hot surfaces and sources of ignition. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours) To avoid ignition of vapours by static electricity discharge, all metal parts of the equipment must be grounded Do not allow aluminum alkyls, or solutions containing aluminum alkyls, to come into contact with any part of the body. The alkyls and alkyl solutions will react with the body moisture producing thermal burns. All lines and equipment that could possibly contain aluminum alkyls or aluminum alkyl solutions must be free of any residual moisture and oxygen. If a container is threatened by fire from an external source, the container should be moved from the area. Otherwise, the container and any other equipment in the area should be kept cool by the use of a water fog spray system.

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

**Storage** Keep away from heat and sources of ignition. Alkyl containers should be kept in a well-ventilated area. Efforts must be made to keep water from accumulating in the recessed dome during storage and while the container is connected to the process. Keep containers tightly closed in a dry, cool and well-ventilated place. Mechanical ventilation is recommended. Protect from water.

**Incompatible Materials** Water. Avoid acid, alcohol, oxidizing agents, and halogenated compounds.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Control parameters**

**Exposure Guidelines** .

| Component | CAS-No | ACGIH TLV (TWA) | OSHA PEL (TWA) | NIOSH IDLH |
|---|---|---|---|---|
| Toluene | 108-88-3 | TWA: 20 ppm | 375MGM3; 100PPM 200PPM | IDLH: 500 ppm TWA: 100 ppm TWA: 375 mg/m³ STEL: 150 ppm STEL: 560 mg/m³ |
| Aluminoxanes, Me, Me group-terminated | 949495-39-0 | - | - | - |
| Trimethylaluminium | 75-24-1 | TWA: 1mg/m³ (Al metal and insoluable compounds) | 2MGM3 Al | TWA: 2 mg/m³ Al |

**Appropriate engineering controls**

**Engineering Controls** Showers
Eyewash stations
Ventilation systems.

**Individual protection measures, such as personal protective equipment**

**Eye/face Protection** Chemical goggles and the aluminized hood of a safety suit. Goggles and face shield for small scale laboratory operation.

**Skin Protection** Use full aluminized safety suit when transferring material (large scale) and whenever contact may occur. We recommend using a full-body aluminized proximity suit.

**Hand protection** Gloves used in plant transfers or operations should be aluminized or heavy leather. All gloves should be cuffed and loose-fitting for quick removal if necessary.

**Respiratory protection** Approved dust, fume and organic respirator when working in irritating fumes from decomposition.

**General Hygiene Considerations** Handle in accordance with good industrial hygiene and safety practice. Remove and wash contaminated clothing before re-use. Wash hands and face before breaks and immediately after handling the product.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

**Information on basic physical and chemical properties**

| | |
|---|---|
| **Physical state** | Liquid |
| **Color** | Clear. |
| **Odor** | Aromatic. |
| **Odor Threshold** | No information available |
| **Molecular Weight** | No information available |
| **pH** | Not available |
| **Melting point/freezing point** | -60 °C / -76 °F |
| **Boiling Point/Range** | 111 °C / 232 °F ( Toluene ) |
| **Flash Point** | 4 °C / 39 °F (TCC) - Toluene |
| **Evaporation Rate** | No information available |
| **Flammability (solid, gas)** | No information available |
| **Flammability Limit in Air** | |
| **Upper flammability limit:** | No information available |
| **Lower flammability limit:** | No information available |
| **Vapor Pressure** | No information available |
| **Vapor Density** | No data available |
| **Relative density** | No information available |
| **Solubility(ies)** | |
| **Water Solubility** | Reacts violently with water. |
| **Solubility in other solvents** | No information available |
| **Partition coefficient :** | |
| **Autoignition temperature** | No information available |
| **Decomposition temperature** | No information available |
| **Viscosity, kinematic** | No information available |
| **Dynamic viscosity** | No information available |
| **Explosive Properties** | Not applicable |
| **Oxidizing Properties** | Not applicable |

## 10. STABILITY AND REACTIVITY

| | |
|---|---|
| **Reactivity Hazard** | Reacts violently with water |
| **Stability** | Stable under recommended storage conditions. Handle under inert gas, protect from moisture. Reacts violently with water. |
| **Hazardous Reactions** | No hazardous reaction expected under normal handling. |
| **Conditions to Avoid** | Exposure to air. Heat, flames and sparks. Protect from water. |
| **Materials to avoid** | Oxygen. Water. Avoid acid, alcohol, oxidizing agents, and halogenated compounds. |
| **Hazardous decomposition products** | Flammable vapours and aluminium containing dust on exposure to water and moist air. |

## 11. TOXICOLOGICAL INFORMATION

**Information on likely routes of exposure**

| | |
|---|---|
| **Inhalation** | Corrosive by inhalation. Causes burns. Inhalation of vapors from aluminum alkyl fires or decomposition may cause immediate irritation of the respiratory tract. Excessive or prolonged inhalation of vapors may cause "metal fume fever". Symptoms are throat irritation, headache, fever, chills, nausea, constricting sensation of the lungs. May cause central nervous system depression with nausea, headache, dizziness, vomiting, and incoordination. Exposure can cause lung damage including effects to the larynx, bronchi and pulmonary edema. |

**Eye contact** Causes burns. Such burns will be predominately thermal and should be treated medically as such.

**Skin Contact** Causes burns. Such burns will be predominately thermal and should be treated medically as such. Immediate application of cold water has been found to reduce the severity of burns.

**Ingestion** Aspiration hazard if swallowed - can enter lungs and cause damage. Aspiration may cause pulmonary edema and pneumonitis. Ingestion causes burns of the upper digestive and respiratory tracts. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. May cause severe burning pain in the mouth and stomach with vomiting and diarrhea of dark blood. Blood pressure may decrease. Brownish or yellowish stains may be seen around the mouth. Swelling of the throat may cause shortness of breath and choking. May cause additional affects as listed under "Inhalation".

**Potential Health Effects**

**Acute Effects**

**Skin Corrosion/irritation** Causes burns.

**Serious eye damage/eye irritation** Causes eye burns.

**Respiratory irritation :** Causes burns

**Sensitization** Not expected to be a sensitizer.

**STOT - single exposure** May cause drowsiness or dizziness.

**Chronic Effects**

**Mutagenic Effects** No information available.

**Carcinogenicity** The table below indicates whether each agency has listed any ingredient as a carcinogen.

| Component | CAS-No | ACGIH Carcinogens | IARC | NTP | OSHA Carcinogens |
|---|---|---|---|---|---|
| Toluene | 108-88-3 | - | Group 3 | - | - |
| Aluminoxanes, Me, Me group-terminated | 949495-39-0 | - | - | - | - |
| Trimethylaluminium | 75-24-1 | - | - | - | - |

**Reproductive Effects** Possible risk of harm to the unborn child. May impair fertility.

**STOT - repeated exposure** May cause damage to organs through prolonged or repeated exposure.

**Chronic Effects** This product contains toluene. Literature data indicate that repeated or prolonged overexposure to high vapor concentrations of toluene causes central nervous system effects and possible kidney effects.

**Target Organ Effects** Central nervous system (CNS), Kidney, Reproductive System.

**Aspiration hazard** Risk of serious damage to the lungs (by aspiration). May be fatal if swallowed and enters airways.

**Numerical measures of toxicity**

**Product Information**

**The following values are calculated based on chapter 3.1 of the GHS document** .

**ATEmix (oral)** 3714 mg/kg

**ATEmix (dermal)** 17143 mg/kg

**Component Information**

| Component | Rat Oral LD50: | Rabbit Dermal LD50: | Rat Dermal LD50 : | Rat Inhalation LC50: |
|---|---|---|---|---|

| | | | | |
|---|---|---|---|---|
| Toluene<br>108-88-3 | 2600 mg/kg | 12000 mg/kg | | - |

**Other data** Excessive or prolonged inhalation of fumes may cause metal fume fever. Literature data indicate that toluene causes cardiac stimulation and arrhythmia (irregular heart beat) in the laboratory animal.

## 12. ECOLOGICAL INFORMATION

**Ecotoxicity**

Toxic to aquatic life with long lasting effects

| Component | Freshwater Algae EC50/72h : | Freshwater Fish LC50/96h : | Water Flea EC50/48h : |
|---|---|---|---|
| Toluene (CAS #: 108-88-3) | 134 mg/l | 5.89 mg/l | - |

**Persistence/Degradability** No information available.

**Bioaccumulation/ Accumulation** No information available.

**Mobility in Environmental Media** No information available.

| Component | Partition coefficient : |
|---|---|
| Toluene<br>108-88-3 | 2.65 |

**Other adverse effects** No information available

## 13. DISPOSAL CONSIDERATIONS

**Waste treatment methods**

**Waste Disposal Method** Absorb and incinerate. Dispose of as hazardous waste in compliance with local and national regulations.

**Contaminated Packaging** Do not reuse container.

## 14. TRANSPORT INFORMATION

**DOT**

| | |
|---|---|
| **Proper Shipping Name** | ORGANOMETALLIC SUBSTANCE, LIQUID, WATER-REACTIVE, FLAMMABLE, (Methylaluminoxane, Toluene) |
| **Hazard Class** | 4.3 |
| **Subsidiary Class** | 3 |
| **UN No.** | 3399 |
| **Packing Group** | I |
| **Description** | UN 3399 Organometallic substance, liquid, water-reactive, flammable (Methylaluminoxane, Toluene), 4.3 (3), I |

**IMDG/IMO**

| | |
|---|---|
| **IMO Class** | 4.3 |
| **Subsidiary Risk** | 3 |
| **Packing Group** | I |
| **UN-No** | 3399 |
| **IMO Labelling and Marking** | 4.3 + 3 |
| **Proper Shipping Name** | Organometallic substance, liquid, water-reactive, flammable ( Methylaluminoxane, Toluene ) |
| **EmS** | F-G, S-N |
| **Marpol - Annex II** | Not applicable |
| **Marpol - Annex III** | Unregulated |
| **Transport Description** | UN 3399 Organometallic substance, liquid, water-reactive, flammable ( Methylaluminoxane, Toluene ), 4.3 (3), I |

**IATA/ICAO**

| | |
|---|---|
| **IATA/ICAO Class** | 4.3 (3) |
| **Subsidiary Risk** | 3 |
| **Packing Group** | I |
| **UN-No** | 3399 |
| **IATA/ICAO Labelling/Marking** | 4.3 + 3 |
| **Passenger Aircraft** | Forbidden |
| **Cargo aircraft only** | Maximum net quantity per package: 1 L |
| **Proper shipping name** | Organometallic substance, liquid, water-reactive, flammable ( Methylaluminoxane, Toluene ) |
| **Transport Description** | UN 3399 Organometallic substance, liquid, water-reactive, flammable ( Methylaluminoxane, Toluene ), 4.3 (3), I |

## 15. REGULATORY INFORMATION

| International Inventories | TSCA | DSL | NDSL | AICS | EINECS | ELINCS | ENCS | KECL | PICCS | IECSC | NZIoC |
|---|---|---|---|---|---|---|---|---|---|---|---|
| MAO <= 30% in Toluene | X | - | - | - | X | - | X | X | - | X | - |

**SARA 313**

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372:

| Component | Weight % | SARA 313 - De minimis |
|---|---|---|
| Toluene (CAS #: 108-88-3) | >70 | 1.0 % |

**SARA 311/312 Hazardous Categorization**

| | |
|---|---|
| **Acute Health Hazard** | Yes |
| **Chronic Health Hazard** | Yes |
| **Fire Hazard** | Yes |
| **Sudden Release of Pressure Hazard** | No |
| **Reactive Hazard** | Yes |

**Reportable and Threshold Planning Quantities**

The following components have RQs and/or TPQs under SARA and/or CERCLA

| Component | CERCLA RQ, lbs | SARA 302 RQ, lbs | SARA 302 TPQ, lbs |
|---|---|---|---|

| | | | |
|---|---|---|---|
| Toluene (CAS #: 108-88-3) | 1000 | - | - |
| Trimethylaluminium (CAS #: 75-24-1) | 100 | - | - |

**State Right-to-Know**

This product contains the following chemicals regulated in the states listed below.

| Component | California Prop. 65 | New Jersey | Massachusetts | Pennsylvania |
|---|---|---|---|---|
| Toluene (CAS #: 108-88-3) | Listed. | Listed. | Listed. | Listed. |
| Trimethylaluminium (CAS #: 75-24-1) | - | Listed. | Listed. | Listed. |

## 16. OTHER INFORMATION

| | | | | |
|---|---|---|---|---|
| **NFPA** | Health 3 | Flammability 4 | Instability 2 | Physical Hazards W |
| **HMIS** | Health 3 * | Flammability 4 | Physical Hazards 2 | |

**Prepared By** Health & Environment DepartmentAlbemarle Corporation

FOR ADDITIONAL NONEMERGENCY PRODUCT INFORMATION, CONTACT:

HEALTH AND ENVIRONMENT DEPARTMENT
ALBEMARLE CORPORATION
451 FLORIDA ST.
BATON ROUGE, LA. 70801
(800) 535-3030

**Preparation Date :** 11-Mar-2015
**Revision Date:** 07-Oct-2015

**Disclaimer:**

The information contained herein is accurate to the best of our knowledge. The Company makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances.

**End of Safety Data Sheet**