

**From:** [Air.Pollution Control](#)  
**To:** [APC Permitting](#)  
**Subject:** FW: 32-0215-081059 Koch Foods New Sources  
**Date:** Thursday, December 21, 2023 11:35:46 AM  
**Attachments:** [image001.png](#)  
[Response Letter 12-14-2023 w attachments signed rev1.pdf](#)  
[SDS-DUOQUAT.pdf](#)  
[SDS-ProSOLV.pdf](#)  
[SDS-PROTEC.pdf](#)  
[TOWER 1-SDS.pdf](#)  
[ACID SANITIZER SDS.pdf](#)  
[BIOCIDE ONE-SDS.pdf](#)  
[ODOR OUT-SDS.pdf](#)  
[PROLUBE SDS.pdf](#)  
[ROX-92 SDS Updated 11-01-2016.pdf](#)  
[SDS-BLR 40.pdf](#)

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**From:** Mario Ornelas <Mario.Ornelas@tn.gov>  
**Sent:** Thursday, December 21, 2023 10:32 AM  
**To:** Air.Pollution Control <Air.Pollution.Control@tn.gov>  
**Subject:** FW: 32-0215-081059 Koch Foods New Sources

Good morning,

Please submit the following documents to permit 081059 as additional information and merge into one pdf.

Sincerely,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-1578  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Sent:** Monday, December 18, 2023 1:17 PM  
**To:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** [EXTERNAL] RE: 32-0215-081059 Koch Foods New Sources

Mario,

I apologize for the confusion. As you suggested, the note was in fact left out by mistake. Attached is a revised letter with the correct note displayed below the table. The note and part 1) of the letter are discussing essentially the same info.

Also, I have attached the SDS for the referenced chemicals.

Let me know if you have additional questions.

Thanks

Robert Hull  
Complex Environmental Manager  
Koch Foods – Morristown  
O 423-522-2257  
C 423-353-2819

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**From:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Sent:** Monday, December 18, 2023 12:00 PM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** RE: 32-0215-081059 Koch Foods New Sources

Mr. Hull,

Your response has been received and is being reviewed. Currently, I would like clarification on one section. Calculations for pm emissions reference a note in the table. Does this note refer to point 1) in the letter or something else? Also, there does not appear to be any reference to the superscript F on "*lbs/hr PM collected*." I believe this should be located below the table and may have been left out by mistake. Please clarify these questions when you are able.

Additional please submit copies of the safety data sheets for the chemicals specified in the calculations.

Sincerely,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control

Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-1578  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Sent:** Friday, December 15, 2023 1:28 PM  
**To:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** [EXTERNAL] RE: 32-0215-081059 Koch Foods New Sources

Mario,

Please find attached a response to your inquiry on 11-14-2023. Should you have any questions or concerns regarding this submittal please reach out.

Thanks

Robert Hull  
Complex Environmental Manager  
Koch Foods – Morristown  
O 423-522-2257  
C 423-353-2819

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**From:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Sent:** Monday, December 4, 2023 8:24 AM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** RE: 32-0215-081059 Koch Foods New Sources

Mr. Hull,

Thank you for the update. Processing will continue once we receive further correspondence.

Sincerely,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-1578  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Sent:** Thursday, November 30, 2023 2:15 PM  
**To:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** [EXTERNAL] RE: 32-0215-081059 Koch Foods New Sources

Mario,

I just wanted to let you know that we are still working to compile some additional information in order to develop a complete and appropriate response to your conclusions and inquiry on 11-14-2023. I anticipate being prepared to submit the response and any additional supporting data by 12-15-2023.

Thanks

Robert Hull  
Complex Environmental Manager  
Koch Foods – Morristown  
O 423-522-2257  
C 423-353-2819

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**From:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Sent:** Wednesday, November 15, 2023 9:09 AM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** RE: 32-0215-081059 Koch Foods New Sources

Mr. Hull,

That is fine. Processing of the permit will continue after Thanksgiving.

Thank you,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-1578  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>

**Sent:** Tuesday, November 14, 2023 4:44 PM  
**To:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** [EXTERNAL] RE: 32-0215-081059 Koch Foods New Sources

Mario,

I have received your correspondence, but will be out of the office from today until 11-21. That week is of course Thanksgiving. I will do my best to respond by sometime the week after Thanksgiving if that works for you.

Thanks

Robert Hull

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**From:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Sent:** Tuesday, November 14, 2023 4:21 PM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** RE: 32-0215-081059 Koch Foods New Sources

Mr. Hull,

The Division has received your response to the inquiry regarding potential additional sources at Koch Foods of Morristown, LLC. Upon review of the information presented the following conclusions have been formed:

Determination of potential to emit of a source is established by evaluating an emissions estimate assuming no control devices were present. Therefore, a baghouse control should be considered in the potential to emit (PTE). Calculations including the baghouse control would refer to maximum actual controlled emissions (MACE). Insignificant or exempt status is determined by PTE not MACE. Additionally, TAPCR 1200-09-.04(5)(g)3 applies to ventilating units that do not exhaust air pollutants. Since the baghouse controls for PM, which is an air pollutant, this rule citation does not apply.

Drift eliminators on cooling towers are control devices which should not be considered when determining potential to emit. They must be considered in determining MACE.

Rule 1200-03-09-.04(4)(d)17 refers to fuel burning sources where the combined total heat input rate at each location does not exceed 10 million Btu/hour. Since the boilers on site are above 10 million Btu/hour, this rule citation does not apply. Assuming the emissions are below the applicable thresholds given in TAPCR 1200-09-.04(4)(b), emissions from natural gas-fired make-up air and HVAC units may still be exempt regardless.

The exempt status of multiple sources on site is appropriate. Can you provide the calculations used in determining the potential emissions and status of each additional source?

Thank you,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-1578  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Sent:** Friday, November 10, 2023 10:39 AM  
**To:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Cc:** Wilds, David <[David.Wilds@kochfoods.com](mailto:David.Wilds@kochfoods.com)>  
**Subject:** [EXTERNAL] RE: 32-0215-081059 Koch Foods New Sources

Mario,

Attached you will find two letters. The first letter is in response to your inquiry regarding additional air contaminant sources at our facility. The second is a new agreement letter as requested with the permit renewal regarding particulate matter and sulfur dioxide emissions from the boilers. Should you have any questions or concerns regarding these letters please reach out.

Thanks

Robert Hull  
Complex Environmental Manager  
Koch Foods – Morristown  
O 423-522-2257  
C 423-353-2819

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**From:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Sent:** Monday, October 30, 2023 10:37 AM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Subject:** RE: 32-0215-081059 Koch Foods New Sources

Robert,

That sounds good, thank you for the update.

Thanks,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-1578  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Sent:** Monday, October 30, 2023 10:24 AM  
**To:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Subject:** [EXTERNAL] RE: 32-0215-081059 Koch Foods New Sources

Mario,  
Our work is ongoing to prepare an appropriate response. I expect we should have this completed by the end of next week (11-10), but likely sooner.  
Thanks  
Robert

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**From:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Sent:** Monday, October 30, 2023 8:43 AM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Subject:** RE: 32-0215-081059 Koch Foods New Sources

Good morning,

This email is to follow up on the review of Koch Foods' possible air contaminant sources. Could you provide an update regarding the status of the review and a what the expected time is to finish the initial review?

Thank you,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-1578  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Mario Ornelas  
**Sent:** Monday, October 9, 2023 11:54 AM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Subject:** RE: 32-0215-081059 Koch Foods New Sources

Robert,

I expected it to take some time to review and assess the facility. Thank you for letting me know.

Sincerely,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-3192  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)

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**From:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Sent:** Monday, October 9, 2023 11:45 AM  
**To:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Subject:** [EXTERNAL] RE: 32-0215-081059 Koch Foods New Sources

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

Mario,

I just wanted to let you know we are reviewing your information request and working to develop an appropriate response. Doing so will likely take some time.

Thanks

Robert Hull

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**From:** Mario Ornelas <[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)>  
**Sent:** Thursday, October 5, 2023 3:16 PM  
**To:** Hull, Robert <[Robert.Hull@kochfoods.com](mailto:Robert.Hull@kochfoods.com)>  
**Subject:** 32-0215-081059 Koch Foods New Sources



Good afternoon,

I am following up on our phone call from yesterday.

For reference, the threshold of air contaminant sources needing a permit is 5 tons per year of emissions for all criteria pollutants and VOCs. HAPs have a threshold of 1000 lbs. per year before they require a permit. However, sources with emissions below those limits should still be submitted to the division so that we can classify them as insignificant.

After internal discussion we decided that we should inquire about more possible air contaminant sources on site. I have compared this site to other poultry slaughter facilities and have developed the following list of possible air contaminant sources:

Boilers (PM, NOx, CO, SO2, VOC)  
Water heaters (PM, NOx, CO, SO2, VOC)  
Emergency Engines (PM, NOx, CO, SO2, VOC)  
Cleaners, Sanitizers, & Intervention (VOC)  
Refrigerant systems (VOC or Ammonia)  
Diesel Storage tanks (VOC)  
Live Hang Lines (PM)  
Cooling Towers (PM)

Please let me know which sources you have on site regardless of the emission quantity. Then we will give you further guidance on new APC forms to be submitted.

Let me know if you have questions. My work phone still seems to not be functioning so call my cell (931) 310-8897 for the time being if you would like to discuss anything.

Sincerely,



**Mario Ornelas** | Environmental Protection Specialist I  
Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike Knoxville, TN 37916  
p. (865) 403-3192  
[Mario.Ornelas@tn.gov](mailto:Mario.Ornelas@tn.gov)



# KOCH FOODS

December 14, 2023

Delivered via email to Mario.Ornelas@tn.gov

Mr. Mario Ornelas  
Division of Air Pollution Control  
Knoxville Environmental Field Office  
3711 Middlebrook Pike  
Knoxville, TN 37916

**Re: Response to Email 11/14/2023  
Koch Foods of Morristown, LLC  
Morristown (Hamblen County), Tennessee  
Facility ID: 32-0215**

Mr. Ornelas,

Koch Foods of Morristown, LLC's (Koch Foods) poultry processing plant (Facility) received your response email on November 14, 2023 regarding potential Facility emission sources. Below are responses to your conclusions as well as discussion regarding emissions calculations. Transmitted herewith are supporting emissions calculations.

Please note the following concerning these emissions calculations:

**1) Live Hang Lines (PM)**

Live chickens are unloaded from coops onto a conveyor and then manually repositioned on a processing line in preparation for slaughtering. These areas are ventilated by a fan and baghouse (Live Receiving Baghouse – Donaldson Torit Model No. 162MBT8) which draws air from this area and filters it prior to releasing to the atmosphere. The Live Receiving Baghouse is not an air pollution control device, however it is part of a ventilation system used to ensure the comfort of those team members working in this area. The ductwork for this ventilation system is designed such that the filtered exhaust can be returned into the Live hang room or released to the atmosphere.

The potential particulate emissions from this process were determined by measuring the particulate collected by the Live Receiving Baghouse. By reasonably assuming the baghouse provides 99% PM removal, an uncontrolled potential emission rate can be determined. Calculations are attached and show the process to be insignificant and exempt per Rule 1200-03-09-.04(4)(c) and subsequent Rule 1200-03-09-.04(5)(g)24.

It should be noted that if the baghouse were removed, air flow in the Live hang room would be significantly decreased. Thus, the associated airborne particulate in the exhaust would also decrease,



# KOCH FOODS

as the less air movement through the room the less particulates that become airborne. For this reason, calculating the uncontrolled emission rate based on the mass the baghouse collects substantially overestimates the particulate emissions from the live hang process.

## **2) Cooling Towers (PM)**

Drift eliminators are primarily water conservation devices. Drift eliminators are inherent to cooling tower design as a standard feature to reduce water loss and minimize water treatment chemical costs. Using AP-42 Table 13.4-1 to calculate an "uncontrolled" drift rate, calculations show insignificant PM emissions. The Cooling Towers are exempt emissions units per Rule 1200-03-09-.04(4)(b) and subsequent Rule 1200-03-09-.04(5)(f)15.

It should be noted that AP-42 Chapter 13.4.2 describes that assuming all TDS that is lost in the drift is emitted to the atmosphere as PM<sub>10</sub> emissions is a conservative assumption. The reality is that a cooling tower with significant drift releases water droplets that fall to the ground before evaporating.

## **3) Natural Gas fired Make-Up Air and HVAC Units**

In addition to the boiler calculations, emission calculations for the Make-Up Air Units and comfort heating units are included. Koch Foods requests that all but the boilers be exempted per Rule 1200-03-09-.04(4)(a).

## **4) Cleaners, Sanitizers, and Intervention**

Calculations demonstrating the insignificance of these processes are attached.

If you have any questions or concerns regarding this submission, please contact me (Robert.Hull@kochfoods.com) at (423) 353-2819.

Sincerely,

Robert Hull  
Complex Environmental Manager  
Koch Foods – Morristown, TN

### Attachments

- Live Hang – Summary
- Cooling Tower – Summary
- Combustion Sources – Summary
- PAA – Summary
- Liquid Chemicals – Summary

**Emission Inventory**  
**Koch Foods of Morristown, LLC - Poultry Processing Plant**  
**Live Hang Lines**

Live Hang-Summary											Actual		Potential		
	Actual Throughput		Potential Maximum Throughput		Estimated Actual Annual Operating Hours	Max Operating Hours	Emission Factor	Units	Pollutant Type	Emissions Control	Control Device Efficiency (%) <sup>F</sup>	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)
Live Hang Lines	1.024	lbs/hr PM collected	1.024	lbs/hr PM collected		8,760	See Note	PM	Building	50% / 99%	0.01	0.03	0.52	2.26	
	1.034	lbs/hr PM total	1.034	lbs/hr PM total	5,840										
					(16 hrs/day)										

**NOTE**  
 Live chickens are unloaded from coops onto a conveyor and then manually repositioned on a processing line in preparation for slaughtering. These areas are ventilated by a fan and baghouse (Live Receiving Baghouse - Donaldson Torit Model No. 162MBT8) which draws air from the room and filters it prior to releasing it to the atmosphere. Koch Foods measured the particulate collected by the Live Receiving Baghouse over a week in November/December 2023. Particulate collected was 172 pounds. The Plant was processing at/near capacity during this time. It can reasonably be assumed that if the baghouse provides 99% PM removal, the mass collected represents 99% of the particulate emissions. These values are used to calculate process emissions. However, since the operations occur inside the Building in an enclosed room, a 50% removal efficiency is allowed for the building when calculating potential emissions. Actual emissions are determined assuming the baghouse provides 99% PM removal efficiency. If the baghouse and its associated fan were removed, the room airflow would be significantly decreased and the associated particulate in the room exhaust air would also decrease. Thus, calculating the potential emission rate based on the mass the baghouse collects, overestimates the particulate emissions from the live hang process.

## Cooling Tower - Summary

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Cooling Towers (2 units)		
Flow rate (each unit)	1600 gpm	
Operation Hours	24 hrs/day 7 days/wk 52 wks/yr 365 days/yr	
Actual operating hrs	8760 hrs/yr	
Potential operating hrs	8760 hrs/yr	
Drift rate	0.005 %	[from AP-42, Chapter 13.4 - Wet Cooling Towers]
Drift rate (actual)	0.001 %	[manufacturer specs-Evapco]
Max TDS	1000 ppm	[estimated]

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$$PM(\text{lbs/hr}) = [\text{Flow Rate (gal/min)}] * [60\text{min/hr}] * [\text{drift rate}(\%) \div 100] * [\text{TDS(ppm)} \div 1000000 \text{ parts}] * [8.34 \text{ lbs water/gal water}]$$


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Per Tower		
PM actual	0.008 lbs/hr	
PM actual	0.035 tons/yr	
PM potential	0.040 lbs/hr	
PM potential	0.175 tons/yr	÷
Facility		
PM actual	0.016 lbs/hr	
PM actual	0.070 tons/yr	
PM potential	0.080 lbs/hr	
PM potential	0.351 tons/yr	

**Emission Inventory**  
**Koch Foods of Morristown, LLC - Poultry Processing Plant**  
**Combustion Sources**

Combustion Sources-Summary										Potential Emissions					
Exemption/ Permit No.	Emission Source	Material Input	Actual Throughput	Potential Maximum Throughput		Annual Operating Hours	Emission Factor	Units	Pollutant Type	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)				
Permitted Sources															
Permit No. 067466F	Superior Boiler (Model No. 4-S-2506; Year Built: 2000) (21.0 mmBtu/hr) (500 HP)	Natural Gas (Primary Fuel)	500 HP	21.0	mmBTU/Hr	21,000	mmBTU/Hr	8,760	7.60	lb/10 <sup>6</sup> cf	PM <sup>A</sup>	0.16	0.70		
			21,000	CfHr	21,000		CfHr		100	lb/10 <sup>6</sup> cf	NO <sub>x</sub> <sup>A</sup>	2.10	9.20		
									84	lb/10 <sup>6</sup> cf	CO <sup>A</sup>	1.76	7.73		
									0.60	lb/10 <sup>6</sup> cf	SO <sub>2</sub> <sup>A</sup>	0.01	0.06		
									5.50	lb/10 <sup>6</sup> cf	VOC <sup>A</sup>	0.12	0.51		
		#2 Fuel Oil <sup>E,C</sup> (Backup Fuel)	500 HP	21.0	mmBTU/Hr	21,000	mmBTU/Hr	150.0	gal/hr	8,760	1.89	lb/10 <sup>6</sup> cf	HAPs <sup>F</sup>	0.04	0.17
			150.0	gal/hr	150.0		gal/hr		3.30		lb/10 <sup>3</sup> gal	PM <sup>A,B</sup>	0.50	2.17	
									20.00		lb/10 <sup>3</sup> gal	NO <sub>x</sub> <sup>A</sup>	3.00	13.14	
									5.00		lb/10 <sup>3</sup> gal	CO <sup>A</sup>	0.75	3.29	
									0.21		lb/10 <sup>3</sup> gal	SO <sub>2</sub> <sup>A,C</sup>	0.03	0.14	
Permit No. 067466F	Superior Boiler (Model No. 4-S-1276; Year Built: 2000) (10.5 mmBtu/hr) (250 HP)	Natural Gas (Primary Fuel)	250 HP	10.5	mmBTU/Hr	10,500	mmBTU/Hr	8,760	7.60	lb/10 <sup>6</sup> cf	PM <sup>A</sup>	0.08	0.35		
			10,500	CfHr	10,500		CfHr		100	lb/10 <sup>6</sup> cf	NO <sub>x</sub> <sup>A</sup>	1.05	4.60		
									84	lb/10 <sup>6</sup> cf	CO <sup>A</sup>	0.88	3.86		
									0.60	lb/10 <sup>6</sup> cf	SO <sub>2</sub> <sup>A</sup>	0.01	0.03		
									5.50	lb/10 <sup>6</sup> cf	VOC <sup>A</sup>	0.06	0.25		
		#2 Fuel Oil <sup>E,C</sup> (Backup Fuel)	250 HP	10.50	mmBTU/Hr	10,500	mmBTU/Hr	75.0	gal/hr	8,760	1.89	lb/10 <sup>6</sup> cf	HAPs <sup>F</sup>	0.02	0.09
			75.0	gal/hr	75.0		gal/hr		3.30		lb/10 <sup>3</sup> gal	PM <sup>A,B</sup>	0.25	1.08	
									20.00		lb/10 <sup>3</sup> gal	NO <sub>x</sub> <sup>A</sup>	1.50	6.57	
									5.00		lb/10 <sup>3</sup> gal	CO <sup>A</sup>	0.38	1.64	
									0.21		lb/10 <sup>3</sup> gal	SO <sub>2</sub> <sup>A,C</sup>	0.02	0.07	
Insignificant/Exempt Sources															
1200-03-09-.04(4)(b)	Evapco Roof Top Makeup Unit (EDF-40-95-CC-DF R.H.)	Natural Gas	2.025	mmBTU/Hr	2.025	mmBTU/Hr	8,760	7.60	lb/10 <sup>6</sup> cf	PM <sup>A</sup>	0.02	0.07			
			2.025	CfHr		2.025		CfHr	100	lb/10 <sup>6</sup> cf	NO <sub>x</sub> <sup>A</sup>	0.20	0.89		
									84	lb/10 <sup>6</sup> cf	CO <sup>A</sup>	0.17	0.75		
									0.60	lb/10 <sup>6</sup> cf	SO <sub>2</sub> <sup>A</sup>	0.00	0.01		
									5.50	lb/10 <sup>6</sup> cf	VOC <sup>A</sup>	0.01	0.05		
									1.89	lb/10 <sup>6</sup> cf	HAPs <sup>F</sup>	0.004	0.02		
1200-03-09-.04(4)(d)8	Evapco Roof Top Makeup Unit (EDF-8-15-CC-DF L.H.)	Natural Gas	0.415	mmBTU/Hr	0.415	mmBTU/Hr	8,760	7.60	lb/10 <sup>6</sup> cf	PM <sup>A</sup>	0.003	0.01			
			415	CfHr		415		CfHr	100	lb/10 <sup>6</sup> cf	NO <sub>x</sub> <sup>A</sup>	0.04	0.18		
									84	lb/10 <sup>6</sup> cf	CO <sup>A</sup>	0.03	0.15		
									0.60	lb/10 <sup>6</sup> cf	SO <sub>2</sub> <sup>A</sup>	0.0002	0.00		
									5.50	lb/10 <sup>6</sup> cf	VOC <sup>A</sup>	0.002	0.01		
									1.89	lb/10 <sup>6</sup> cf	HAPs <sup>F</sup>	0.001	0.003		
1200-03-09-.04(4)(d)8	RTU3-Comfort Heat Unit	Natural Gas	0.115	mmBTU/Hr	0.115	mmBTU/Hr	8,760	7.60	lb/10 <sup>6</sup> cf	PM <sup>A</sup>	0.00	0.00			
			115	CfHr		115		CfHr	100	lb/10 <sup>6</sup> cf	NO <sub>x</sub> <sup>A</sup>	0.01	0.05		
									84	lb/10 <sup>6</sup> cf	CO <sup>A</sup>	0.01	0.04		
									0.60	lb/10 <sup>6</sup> cf	SO <sub>2</sub> <sup>A</sup>	0.00	0.00		
									5.50	lb/10 <sup>6</sup> cf	VOC <sup>A</sup>	0.00	0.00		
									0.00	lb/10 <sup>6</sup> cf	HAPs <sup>F</sup>	0.000	0.00		
1200-03-09-.04(4)(d)8	RTU4-Comfort Heat Unit	Natural Gas	0.108	mmBTU/Hr	0.108	mmBTU/Hr	8,760	7.60	lb/10 <sup>6</sup> cf	PM <sup>A</sup>	0.001	0.00			
			108	CfHr		108		CfHr	100	lb/10 <sup>6</sup> cf	NO <sub>x</sub> <sup>A</sup>	0.01	0.05		
									84	lb/10 <sup>6</sup> cf	CO <sup>A</sup>	0.01	0.04		
									0.60	lb/10 <sup>6</sup> cf	SO <sub>2</sub> <sup>A</sup>	0.0001	0.00		
									5.50	lb/10 <sup>6</sup> cf	VOC <sup>A</sup>	0.001	0.00		
									0.00	lb/10 <sup>6</sup> cf	HAPs <sup>F</sup>	0.000	0.000		

Boiler-Potential Emissions-Natural Gas		
	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)
PM	0.24	1.05
NO <sub>x</sub>	3.15	13.80
CO	2.65	11.59
SO <sub>2</sub>	0.02	0.08
VOC	0.17	0.76
HAPs	0.06	0.26

Boiler-Potential Emissions-#2 Fuel Oil		
	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)
PM	0.74	3.25
NO <sub>x</sub>	4.50	19.71
CO	1.13	4.93
SO <sub>2</sub>	0.05	0.21
VOC	0.05	0.20
HAPs	0.01	0.06

Insignificant/Exempt Combustion Emissions		
	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)
PM	0.02	0.09
NO <sub>x</sub>	0.27	1.17
CO	0.22	0.98
SO <sub>2</sub>	0.00	0.01
VOC	0.01	0.06
HAPs	0.00	0.02

**NOTES**

A = Natural Gas Combustion emission factors from AP-42 Table 1.4-1 and 1.4-2. #2 Fuel Oil combustion factors from AP-42 Table 1.3-1 to 1.3-3 and 1.3-6.

B = Emission factor for PM is equal to emission factor for filterable PM plus emission factor for total condensable PM = 2 lb/10<sup>3</sup> gal + 1.3 lb/10<sup>3</sup> gal = 3.3 lb/10<sup>3</sup> gal

C = Facility purchases and combusts Ultra-Low Sulfur Diesel with a max 15 ppm sulfur content. Emission Factor = 142\*0.015 = 0.213

E = Fuel oil combustion is limited to avoid 40 CFR 63, Subpart 6J (i.e., fuel oil combustion will be limited to 48 hours/year + time during natural gas curtailments/supply shortages). For PTE, calculations assume 8760 operating

F = Emission factor is the sum of HAPs for natural gas (AP-42 Section 1.4, Natural Gas Combustion, Tables 1.4-2, 3, and 4 (07/98)) or the sum for fuel oil (AP-42 Section 1.3, Fuel Oil Combustion, Tables 1.3-8, 9, and 10

## PAA-Summary

### PAA Plant Ventilation

Process Description: PAA is used in dip tanks as follows: Whole Bird Dip Tank (350 ppm), Pre-Chiller (150 ppm), Mid-Chiller (20 ppm) and Final Chiller (35 ppm). The volumes of these basins vary. Poultry carcasses are conveyed through these chilled open top reservoirs. There are no direct emission points from these units, rather any emissions are routed through the production floors ventilation system (consists of three primary exhaust vents located on the roof).

16,000 ft<sup>2</sup>      Production Sq Footage (From Plant Layout Drawing)  
16 ft      Roof Height  
256,000 ft<sup>3</sup>  
3 Design Ventilation Room Changes per Hour  
768,000 ft<sup>3</sup>/hr      Volume of Building Airflow  
12,800 cfm

### Constants

528 T in Rankine (Assumed 68°F)  
1 Atm      Pressure (P)  
0.7302 R      (ft<sup>3</sup>\*atm)/(R\*lb-mol)

### PAA

0.15 ppm      PAA concentration  
Based on facility measurements near the baths. this serves as a conservative estimate as the PAA concentration decreases as distance from the source increases. The PAA concentration exiting exhaust vents is expected to be significantly less than the concentration used in the calculations. ACGIH TLV = 0.4 ppm  
0.11520 ft<sup>3</sup>/hr      PAA airflow volume (V)  
76.0514 lb/mol      Molar Mass PAA  
0.0002988 lb-mol/hr n (mol fraction). Determined using PV=nRT  
**0.0227 lbs/hr PAA**

### Acetic Acid

0.58 ppm Acetic Acid  
Acetic Acid concentration above is the highest indoor air quality concentration recorded in the Reference Study cited below. Actual concentration likely significantly less.  
0.44544 ft<sup>3</sup>/hr      Acetic Acid airflow Volume (V)  
60.052 lb/mol      Molar Mass of Acetic Acid  
0.0011553 lb-mol/hr n (mol fraction). Determined using PV=nRT  
**0.0694 lbs/hr Acetic Acid**

VOC's (PAA + Acetic Acid)

**0.0921 VOC lbs/hr**

### **PAA Vents (2) (Whole Wing Bath and Cut Wing Bath)**

Process Description: PAA is used in dip tanks for poultry parts at a target concentration of 775 ppm. Wings are conveyed through the covered tanks for disinfection. A 6"Ø vent exhausts from each tank through the roof.

25 scfm      Approximate scfm of ventilation fan  
1,500 ft<sup>3</sup>/hr      Volume of Fan Airflow

#### **Constants**

528 T in Rankine (Assumed 68°F)  
1 Atm      Pressure (P)  
0.7302 R      (ft<sup>3</sup>\*atm)/(R\*lb-mol)

#### **PAA**

0.54 ppm      PAA concentration  
PAA concentration above is the highest indoor air quality concentration recorded in the Reference Study cited below. Actual concentration likely significantly less.  
0.00081 ft<sup>3</sup>/hr      PAA airflow volume (V)  
76.0514 gram/mol Molar Mass PAA  
2.10092E-06 lb-mol/hr n (mol fraction). Determined using PV=nRT  
**0.000160 lbs/hr PAA**

#### **Acetic Acid**

0.58 ppm Acetic Acid  
Acetic Acid concentration above is the highest indoor air quality concentration recorded in the Reference Study cited below. Actual concentration likely significantly less.  
0.00087 ft<sup>3</sup>/hr      Acetic Acid airflow Volume (V)  
60.052 lb/mol      Molar Mass of Acetic Acid  
0.0000023 lb-mol/hr n (mol fraction). Determined using PV=nRT  
**0.00014 lbs/hr Acetic Acid**

#### **VOC's (PAA + Acetic Acid)**

**0.000295 VOC lbs/hr both baths**  
**0.000591 VOC lbs/hr per bath**

#### **Total VOC's (PAA + Acetic Acid) from Plant Intervention use of PAA**

**0.093 lbs/hr**  
**0.231 tons/yr**

Operation Hours      16 hrs/day  
                                 6 days/wk  
                                 52 wks/yr  
                                 312 days/yr  
                                 4992 hrs/yr



Reference: Houlroyd, Jenny L., Kristen M. Butler, Hilarie Warren, Robert Hendry, Dr. Doug Britton. "Exposures to Peracetic Acid-Based Disinfectants among Poultry Processing Workers Comparing Traditional Industrial Hygiene Sampling with the use of ChemDAG Safecide PAA Monitor." Food Processing Technology Division, Georgia Tech Research Institute, Funding provided by US Poultry and Egg Association. 2017.

Excerpts from Table 5 of this Reference

PAA (Hecht Method) ppm	Acetic Acid (ppm)	Ratio Acetic Acid/ PAA
0.139	0.57	4.10
0.202	0.24	1.19
0.037	0.18	4.86
0.036	0.2	5.56
0.046	0.178	3.87
0.037	0.069	1.86
0.092	0.261	2.84
0.063	0.138	2.19
0.078		
0.078		
0.055	0.183	3.33
0.068	0.519	7.63
0.094	0.23	2.45
0.126		
0.126		
0.223		
0.047		
0.038	0.07	1.84
0.037	0	
0.038		
0.038	0	
0.038		
0.54	0.58	1.07
0.04	0	

Average:	0.0965	0.21363	3.29183
90th Percentile	0.1831	0.5445	

**Emission Inventory**  
**Koch Foods of Morristown, LLC - Poultry Processing Plant**  
**Liquid Chemicals (Cleaners, Sanitizers, etc.)**

Liquid Chemicals-Summary									Actual		Potential		
Exemption	Emission Source	Material Input	Actual Throughput <sup>C</sup>		Potential Maximum Throughput <sup>D</sup>		Emission Factor	Units	Pollutant Type	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)
1200-03-09-.04(4)(d)2	Facility's Odorizing System <sup>F</sup>	Aulick ROX-92	415	gal/yr	623	gal/yr	6.98%	of Product is volatile	VOC	0.027	0.118	0.040	0.177
			8.161	lbs/gal	8.161	lbs/gal		VOC <sup>E</sup>	HAP	0.00	0.00	0.00	0.00
	Odor Treatment Chemical	Zee Company Odor Out	220	gal/yr	330	gal/yr <sup>D</sup>	6.25%	of Product is volatile	VOC	0.013	0.057	0.020	0.086
			8.345	lbs/gal				VOC <sup>E</sup>	HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Sanitation Chemical	Zee Company Acid Sanitizer	184	gal/yr	276	gal/yr <sup>D</sup>	0.15	lb/gal <sup>E</sup>	VOC	0.003	0.014	0.005	0.021
									HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Sanitation Chemical	Zee Company ProLube	156	gal/yr	234	gal/yr <sup>D</sup>	6.25%	of Product is volatile	VOC	0.008	0.036	0.012	0.055
			7.469	lbs/gal					HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Sanitation Chemical	Zee Company DuoQuat	116	gal/yr	174	gal/yr <sup>D</sup>	12.50%	of Product is volatile	VOC	0.014	0.060	0.021	0.090
			8.303	lbs/gal					HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Sanitation Chemical	Zee Company ProSOLV	2,050	gal/yr	3,075	gal/yr <sup>D</sup>	3.75%	of Product is volatile	VOC	0.075	0.329	0.113	0.493
			8.554	lbs/gal					HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Sanitation Chemical	Zee Company ProTEC	220	gal/yr	330	gal/yr <sup>D</sup>	12.50%	of Product is volatile	VOC	0.027	0.119	0.041	0.178
			8.637	lbs/gal					HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Water Treatment Chemical	Zee Company Biocide One	120	gal/yr	180	gal/yr <sup>D</sup>	1.63%	of Product is volatile	VOC	0.002	0.008	0.003	0.013
			8.58	lbs/gal					HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Water Treatment Chemical	Zee Company BLR 40	225	gal/yr	338	gal/yr <sup>D</sup>	20.00%	of Product is volatile	VOC	0.038	0.168	0.058	0.252
			7.469	lbs/gal					HAP <sup>F</sup>	0.00	0.00	0.00	0.00
	Water Treatment Chemical	Zee Company Tower 1	150	gal/yr	225	gal/yr <sup>D</sup>	6.25%	of Product is volatile	VOC	0.011	0.048	0.016	0.072
			10.223	lbs/gal					HAP <sup>F</sup>	0.00	0.00	0.00	0.00

**NOTES**

A= SDS for each chemical was reviewed and determined that no HAPs were present.

B = The following chemicals in use at the Facility were reviewed and found to contain zero VOCs and HAPs, and are not included above:

Zee Company - Feedwater 4  
Chemicals, Inc. - Krystal Klear 12.5%  
Zee Company - ProPLUS  
Zee Company - DynaChlor  
Zee Company - Feedwater 2  
Zee Company - ProChlor  
Zee Company - ProCIP  
Zee Company - ProPhos  
AFCO 0532 (Sodium Hydroxide)

C = Information on chemical usage based on actual usage in 12 months.

D = Potential Throughput is calculated by multiplying Actual Throughput by 1.5.

E = VOC content obtained from product SDS.

F = The Facility uses an odorizing system to emit a product for malodor control. The system operates by vaporizing a liquid and distributing the vapor through a piping system where the vapor is released. The odorizing product does not contain any federal/state listed Hazardous Air Pollutants (HAPs).

	Actual		Potential	
	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)	Emission Rate (Lbs/Hr)	Emission Rate (Tons/yr)
VOC	0.232	1.015	0.348	1.523
HAP	0.00	0.00	0.000	0.00

## Safety Data Sheet acc. to OSHA HCS

Printing date 12/15/2014

Reviewed on 12/15/2014

### 1 Identification

- **Product identifier** Antimicrobial
- **Trade name:** **ACID SANITIZER**
- **Article number:** LS8A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS08 Health hazard

Carc. 1A H350 May cause cancer.



GHS05 Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Corrosive

Causes burns.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product has been classified and marked in accordance with directives on hazardous materials.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/15/2014

Reviewed on 12/15/2014

Trade name: ACID SANITIZER

(Contd. of page 1)

• **Code letter and hazard designation of product:**



Corrosive

• **Hazard-determining components of labeling:**

phosphoric acid

• **Risk phrases:**

Causes burns.

• **Safety phrases:**

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 1

• **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 1

• **Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

## 3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

7664-38-2	phosphoric acid	35-45%
68424-85-1	Alkyl dimethyl benzyl ammonium chloride (C12-16)	2.5-10%
32426-11-2	Octyl decyl dimethyl ammonium chloride	2.5-10%
5538-94-3	Dioctyl dimethyl ammonium chloride	≤ 2.5%
7173-51-5	Didecyldimethylammonium chloride	≤ 2.5%
64-17-5	ethanol	≤ 2.5%

USA

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 12/15/2014

Reviewed on 12/15/2014

Trade name: ACID SANITIZER

(Contd. of page 2)

### 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Remove to fresh air. If symptoms persist consult a doctor.  
In case of unconsciousness, immediately seek medical attention.
- **After skin contact:**  
Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.
- **After eye contact:**  
Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.
- **After swallowing:**  
Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.  
Immediately contact a doctor or Poison Control Center.
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow to enter surface or ground water.  
Do not allow to penetrate the ground/soil.  
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

— USA —

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/15/2014

Reviewed on 12/15/2014

Trade name: ACID SANITIZER

(Contd. of page 3)

## 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Keep this and all chemicals out of the reach of children.  
Store in a cool, dry, well ventilated area.
- **Information about storage in one common storage facility:**  
Store away from alkali and chlorinated materials.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

### • Components with limit values that require monitoring at the workplace:

#### 7664-38-2 phosphoric acid

PEL	Long-term value: 1 mg/m <sup>3</sup>
REL	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>
TLV	Short-term value: 3 mg/m <sup>3</sup> Long-term value: 1 mg/m <sup>3</sup>

#### 64-17-5 ethanol

PEL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
REL	Long-term value: 1900 mg/m <sup>3</sup> , 1000 ppm
TLV	Short-term value: 1880 mg/m <sup>3</sup> , 1000 ppm

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

(Contd. on page 5)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/15/2014

Reviewed on 12/15/2014

Trade name: ACID SANITIZER

(Contd. of page 4)

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Colorless to slight
Odor:	Characteristic
Odor threshold:	Not determined.

pH-value at 20 °C (68 °F):	< 2.5
----------------------------	-------

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

Flash point:	Not applicable.
--------------	-----------------

Flammability (solid, gaseous):	Not applicable.
--------------------------------	-----------------

- **Ignition temperature:**

Decomposition temperature:	Not determined.
----------------------------	-----------------

Auto igniting:	Product is not selfigniting.
----------------	------------------------------

Danger of explosion:	Product does not present an explosion hazard.
----------------------	---

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

Vapor pressure:	Not determined.
-----------------	-----------------

Density at 20 °C (68 °F):	1.165 g/cm <sup>3</sup> (9.722 lbs/gal)
---------------------------	---

Relative density	Not determined.
------------------	-----------------

Vapor density	Not determined.
---------------	-----------------

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/15/2014

Reviewed on 12/15/2014

Trade name: ACID SANITIZER

(Contd. of page 5)

- |   |  |
|---|--|
| · <b>Evaporation rate</b>                         | Not determined.                            |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                            |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                            |
| · <b>Viscosity:</b>                               |  |
| Dynamic:  | Not determined.                            |
| Kinematic:  | Not determined.                            |
| · <b>Solvent content:</b>                         |  |
| VOC content:                                      | 17.5 g/l / 0.15 lb/gl                      |
| · <b>Other information</b>                        | No further relevant information available. |

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Acids, strong oxidizers
- **Incompatible materials:**  
Strong oxidizing agents  
Acids
- **Hazardous decomposition products:**  
Nitrogen oxides (NO<sub>x</sub>)  
Oxides of carbon

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Corrosive  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

64-17-5 | ethanol

1

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

(Contd. on page 7)

—USA—



# Safety Data Sheet

acc. to OSHA HCS

Printing date 12/15/2014

Reviewed on 12/15/2014

Trade name: ACID SANITIZER

(Contd. of page 6)

- OSHA-Ca (Occupational Safety & Health Administration)

- None of the ingredients is listed.


## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:** Must not reach bodies of water or drainage ditch undiluted or unneutralized.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |   |
|---|---|
| • UN-Number   | UN1903                                  |
| • DOT, IMDG, IATA   |   |
| • ADN   | -                                       |
| • UN proper shipping name   | Disinfectant, liquid, corrosive, n.o.s. |
| • DOT, IMDG, IATA   |   |
| • ADN   | -                                       |
| • Transport hazard class(es)  |   |
| • DOT   |   |
|  |   |
| • Class   | 8 Corrosive substances                  |
| • Label   | 8                                       |
| • Class   | -                                       |
| • Packing group   |   |
| • DOT   | III                                     |
| • IMDG, IATA  | -                                       |

(Contd. on page 8)

USA

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Printing date 12/15/2014

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Trade name: ACID SANITIZER

(Contd. of page 7)

- |  |   |
|--|---|
| · <b>Environmental hazards:</b>  |   |
| · <b>Marine pollutant:</b>   | No  |
| · <b>Special precautions for user</b>  | Not applicable.                                 |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable.                                 |
| · <b>UN "Model Regulation":</b>  | UN1903, Disinfectant, liquid, corrosive, n.o.s. |

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

### · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

### · Section 313 (Specific toxic chemical listings):

7664-38-2 | phosphoric acid

### · TSCA (Toxic Substances Control Act):

All ingredients are listed.

### · Proposition 65

#### · Chemicals known to cause cancer:

None of the ingredients is listed.

#### · Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

#### · Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

#### · Chemicals known to cause developmental toxicity:

64-17-5 | ethanol

### · Carcinogenic categories

#### · EPA (Environmental Protection Agency)

None of the ingredients is listed.

#### · TLV (Threshold Limit Value established by ACGIH)

64-17-5 | ethanol

A3

#### · NIOSH-Ca (National Institute for Occupational Safety and Health)

None of the ingredients is listed.

### · Product related hazard informations:

Observe the general safety regulations when handling chemicals.

The product has been classified and marked in accordance with directives on hazardous materials.

### · Hazard symbols:



Corrosive

(Contd. on page 9)

USA

# Safety Data Sheet

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Trade name: ACID SANITIZER

(Contd. of page 8)

- **Hazard-determining components of labeling:**  
phosphoric acid
- **Risk phrases:**  
Causes burns.
- **Safety phrases:**  
In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.  
Wear suitable protective clothing, gloves and eye/face protection.  
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
This material and its container must be disposed of as hazardous waste.
- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller/Keith Seyfried
- **Date of preparation / last revision** 12/15/2014 / 6
- **Abbreviations and acronyms:**  
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
VOC: Volatile Organic Compounds (USA, EU)  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
Carc. 1A: Carcinogenicity, Hazard Category 1A
- **\* Data compared to the previous version altered.**

USA

## 1. Identification

**Product identifier** **BIOCIDE ONE**

**Other means of identification**

**Product code** BIOCIDE ONE

**Recommended use** Microbiocide

**Recommended restrictions** For Industrial Use Only

**Manufacturer/Importer/Supplier/Distributor information**

**Manufacturer**

**Company name** ZEE Company, Inc.

**Address** 4146 South Creek Road  
Chattanooga, TN 37406  
United States

**Telephone** 423-698-1401

**E-mail** Not available.

**Emergency phone number** 1-800-424-9300

## 2. Hazard(s) identification


**Physical hazards** Not classified.

**Health hazards** Skin corrosion/irritation Category 1B  
Serious eye damage/eye irritation Category 1  
Sensitization, skin Category 1

**Environmental hazards** Not classified.

**OSHA defined hazards** Not classified.

**Label elements**



**Signal word** Danger

**Hazard statement** Causes severe skin burns and eye damage. May cause an allergic skin reaction. Causes serious eye damage.

**Precautionary statement**

**Prevention** Do not breathe mist or vapor. Wash thoroughly after handling. Contaminated work clothing must not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.

**Response** If swallowed: Rinse mouth. Do NOT induce vomiting. If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. If inhaled: Remove person to fresh air and keep comfortable for breathing. 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/doctor. If skin irritation or rash occurs: Get medical advice/attention. Wash contaminated clothing before reuse.

**Storage** Store locked up.

**Disposal** Dispose of contents/container in accordance with local/regional/national/international regulations.

**Hazard(s) not otherwise classified (HNOC)** None known.

**Supplemental information** None.

## 3. Composition/information on ingredients

### Mixtures

Chemical name	Common name and synonyms	CAS number	%
Magnesium nitrate		10377-60-3	1.4 - 2.0
5-Chloro-2-methyl-4-isothiazolin-3-one		26172-55-4	1.1 - 1.35
Magnesium chloride		7786-30-3	1.0 - 1.2
2-Methyl-4-isothiazolin-3-one		2682-20-4	0.35 - 0.45
Other components below reportable levels			95.0 - 96.0

#### 4. First-aid measures

<b>Inhalation</b>	Move to fresh air. Call a physician if symptoms develop or persist.
<b>Skin contact</b>	Remove contaminated clothing immediately and wash skin with soap and water. Call a physician or poison control center immediately. Chemical burns must be treated by a physician. Wash contaminated clothing before reuse.
<b>Eye contact</b>	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.
<b>Ingestion</b>	Call a physician or poison control center immediately. Rinse mouth. Do not induce vomiting. 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>	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Chemical burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

#### 5. Fire-fighting measures

<b>Suitable extinguishing media</b>	Not applicable, non-combustible. Use fire-extinguishing media appropriate for surrounding materials.
<b>Unsuitable extinguishing media</b>	Not applicable.
<b>Specific hazards arising from the chemical</b>	During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire fighting equipment/instructions</b>	Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	No unusual fire or explosion hazards noted.

#### 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. Wear appropriate protective equipment and clothing during clean-up. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	<p>This product is miscible in water.</p> <p>Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Absorb in vermiculite, dry sand or earth and place into containers. Following product recovery, flush area with water.</p> <p>Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.</p>
<b>Environmental precautions</b>	<p>Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS.</p> <p>Avoid discharge into drains, water courses or onto the ground.</p>

## 7. Handling and storage

<b>Precautions for safe handling</b>	Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
<b>Conditions for safe storage, including any incompatibilities</b>	Store locked up. Store in original tightly closed container. Store away from incompatible materials (see Section 10 of the SDS).

## 8. Exposure controls/personal protection

<b>Occupational exposure limits</b>	No exposure limits noted for ingredient(s).
<b>Biological limit values</b>	No biological exposure limits noted for the ingredient(s).
<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. Eye wash facilities and emergency shower must be available when handling this product.
<b>Individual protection measures, such as personal protective equipment</b>	
<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles) and a face shield. Face shield is recommended.
<b>Skin protection</b>	
<b>Hand protection</b>	Wear appropriate chemical resistant gloves. Suitable gloves can be recommended by the glove supplier.
<b>Other</b>	Wear appropriate chemical resistant clothing. Use of an impervious apron is recommended.
<b>Respiratory protection</b>	In case of insufficient ventilation, wear suitable respiratory equipment.
<b>Thermal hazards</b>	Wear appropriate thermal protective clothing, when necessary.
<b>General hygiene considerations</b>	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. Contaminated work clothing should not be allowed out of the workplace.

## 9. Physical and chemical properties

<b>Appearance</b>	
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Colorless to Yellow.
<b>Odor</b>	Pungent.
<b>Odor threshold</b>	Not available.
<b>pH</b>	2.0 - 4.0
<b>Melting point/freezing point</b>	26.6 °F (-3 °C)
<b>Initial boiling point and boiling range</b>	212 °F (100 °C)
<b>Flash point</b>	Not available.
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	0.62 (Air = 1) estimated
<b>Relative density</b>	Not available.

<b>Solubility(ies)</b>	
<b>Solubility (water)</b>	Complete.
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.
<b>Other information</b>	
<b>Density</b>	8.58 lbs/gal
<b>Specific gravity</b>	1.02

## 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>	Contact with incompatible materials.
<b>Incompatible materials</b>	Strong oxidizing agents.
<b>Hazardous decomposition products</b>	No hazardous decomposition products are known.

## 11. Toxicological information

### Information on likely routes of exposure

<b>Inhalation</b>	May cause irritation to the respiratory system.
<b>Skin contact</b>	Causes severe skin burns. May cause an allergic skin reaction.
<b>Eye contact</b>	Causes serious eye damage.
<b>Ingestion</b>	Causes digestive tract burns.

<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Burning pain and severe corrosive skin damage. Causes serious eye damage. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Permanent eye damage including blindness could result.
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### Information on toxicological effects

<b>Acute toxicity</b>	May cause an allergic skin reaction.
<b>Skin corrosion/irritation</b>	Causes severe skin burns and eye damage.
<b>Serious eye damage/eye irritation</b>	Causes serious eye damage.
<b>Respiratory or skin sensitization</b>	
<b>Respiratory sensitization</b>	Not a respiratory sensitizer.
<b>Skin sensitization</b>	May cause an allergic skin reaction.
<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>OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</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 an aspiration hazard.

## 12. Ecological information

<b>Ecotoxicity</b>	The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.
<b>Persistence and degradability</b>	No data is available on the degradability of this product.

<b>Bioaccumulative potential</b>	No data available.
<b>Mobility in soil</b>	No data available.
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

Ceriodaphnia, 1.5% mixed isothiazolones, 48 hr LC50 0.2 ppm

Daphnia, 14.17% mixed isothiazolones, 48 hr LC50 0.18 ppm

In a chronic toxicity study conducted using fathead minnows, methylisothiazolone (14.17% a.i.) gave a Maximum Allowable Toxicant concentration (MATC) of 0.035 ppm. The MATC (the geometric mean of the NOEL and LOEL), based on significantly reduced weight at 0.06 ppm methylisothiazolone was >0.02 and <0.06 ppm. The guideline requirement for freshwater fish chronic toxicity is fulfilled.

### 13. Disposal considerations

<b>Disposal instructions</b>	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<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>	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

### 14. Transport information

DOT

<b>UN number</b>	UN3265
<b>UN proper shipping name</b>	CORROSIVE LIQUIDS, ACIDIC, ORGANIC, N.O.S. (5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE)
<b>Transport hazard class(es)</b>	
Class	8
Subsidiary risk	-
<b>Packing group</b>	II
<b>Special precautions for user</b>	Read safety instructions, SDS and emergency procedures before handling.

DOT



### 15. Regulatory information

<b>US federal regulations</b>	This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200. All components are on the U.S. EPA TSCA Inventory List. This product is subject to regulation under the US Federal Insecticide, Fungicide and Rodenticide Act (FIFRA) and it's components are either listed on the U.S. Toxic Substance Control Act (TSCA) Inventory or they are exempt from listing.
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#### TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

2-Methyl-4-isothiazolin-3-one (CAS 2682-20-4)	1.0 % One-Time Export Notification only.
5-Chloro-2-methyl-4-isothiazolin-3-one (CAS 26172-55-4)	1.0 % One-Time Export Notification only.

**CERCLA Hazardous Substance List (40 CFR 302.4):** Not Listed

**SARA 304 Emergency release notification:** Not regulated

**OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050):** Not listed.



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

**Hazard categories** Immediate Hazard - Yes  
Delayed Hazard - No  
Fire Hazard - No  
Pressure Hazard - No  
Reactivity Hazard - No

**SARA 302 Extremely hazardous substance**

Not listed.

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Magnesium nitrate	10377-60-3	1.4 - 2.0

**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.

**US state regulations****US. California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)**

Not listed.

**US. Massachusetts RTK - Substance List**

Magnesium nitrate (CAS 10377-60-3)

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

Magnesium nitrate (CAS 10377-60-3)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Magnesium nitrate (CAS 10377-60-3)

**US. Rhode Island RTK**

Magnesium nitrate (CAS 10377-60-3)

**US. 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.

**International Inventories**

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
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** 05-31-2015

**Version #** 01

**HMIS® ratings**

Health: 3  
Flammability: 0  
Physical hazard: 0  
Personal protection: H

**Disclaimer**

Seller cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. The information in the sheet was written based on the best knowledge and experience currently available.

**Revision Information**

Product and Company Identification: Product and Company Identification  
Composition / Information on Ingredients: Undisclosed Ingredient Statement  
Physical & Chemical Properties: Multiple Properties  
Regulatory Information: United States  
GHS: Classification

## Safety Data Sheet acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

### 1 Identification

- **Product identifier** Odor neutralizer
- **Trade name:** **ODOR OUT**
- **Article number:** DEO1A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Harmful

Harmful if swallowed.



Irritant

Irritating to skin. Risk of serious damage to eyes.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product has been classified and marked in accordance with directives on hazardous materials.

(Contd. on page 2)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

Trade name: ODOR OUT

(Contd. of page 1)

• **Code letter and hazard designation of product:**



Harmful

• **Risk phrases:**

Harmful if swallowed.  
Irritating to skin.  
Risk of serious damage to eyes.

• **Safety phrases:**

Keep out of the reach of children.  
In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.  
Wear suitable protective clothing, gloves and eye/face protection.  
If swallowed, seek medical advice immediately and show this container or label.  
Dispose of this material and its container to hazardous or special waste collection point.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

8001-54-5	Benzalkonium chloride (+)	2.5-10%
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## 4 First-aid measures

• **Description of first aid measures**

- **General information:** No special measures required.

• **After inhalation:**

Remove to fresh air. If symptoms persist consult a doctor.  
In case of unconsciousness, immediately seek medical attention.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

(Contd. on page 3)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

Trade name: ODOR OUT

(Contd. of page 2)

- **After eye contact:**  
Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.
- **After swallowing:**  
Immediately contact a doctor or Poison Control Center.  
Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter surface or ground water.  
Do not allow to penetrate the ground/soil.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Keep this and all chemicals out of the reach of children.  
Store in a cool, dry, well ventilated area.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.

(Contd. on page 4)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

Trade name: ODOR OUT

(Contd. of page 3)

- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the skin.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Safety glasses

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

<b>Form:</b>	Liquid
<b>Color:</b>	Aqua
<b>Odor:</b>	Characteristic

(Contd. on page 5)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

Trade name: ODOR OUT

(Contd. of page 4)

· Odor threshold:	Not determined.
· pH-value at 20 °C (68 °F):	7
· Change in condition	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· Flash point:	Not applicable.
· Flammability (solid, gaseous):	Not applicable.
· Ignition temperature:	
Decomposition temperature:	Not determined.
· Auto igniting:	Product is not selfigniting.
· Danger of explosion:	Product does not present an explosion hazard.
· Explosion limits:	
Lower:	Not determined.
Upper:	Not determined.
· Vapor pressure:	Not determined.
· Density at 20 °C (68 °F):	1 g/cm <sup>3</sup> (8.345 lbs/gal)
· Relative density	Not determined.
· Vapor density	Not determined.
· Evaporation rate	Not determined.
· Solubility in / Miscibility with Water:	Fully miscible.
· Partition coefficient (n-octanol/water):	Not determined.
· Viscosity:	
Dynamic:	Not determined.
Kinematic:	Not determined.
· Other information	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.

(Contd. on page 6)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

Trade name: ODOR OUT

(Contd. of page 5)

- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |                                     |               |
|-------------------------------------|---------------|
| · <b>UN-Number</b>                  | Not regulated |
| · <b>UN proper shipping name</b>    | Not Regulated |
| · <b>Transport hazard class(es)</b> | Not regulated |

(Contd. on page 7)

USA



# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

Trade name: ODOR OUT

(Contd. of page 6)

- |  |                 |
|--|-----------------|
| · <b>Packing group</b>   | Not regulated   |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

9016-45-9 | Nonylphenol nonylglycol ether

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**



Harmful

(Contd. on page 8)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 10/17/2014

Reviewed on 10/06/2014

**Trade name: ODOR OUT**

(Contd. of page 7)

**• Risk phrases:**

Harmful if swallowed.  
Irritating to skin.  
Risk of serious damage to eyes.

**• Safety phrases:**

Keep out of the reach of children.  
In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.  
Wear suitable protective clothing, gloves and eye/face protection.  
If swallowed, seek medical advice immediately and show this container or label.  
Dispose of this material and its container to hazardous or special waste collection point.

**• Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- Contact:** Jim Faller/Keith Seyfried
- Date of preparation / last revision** 10/17/2014 / 7
- Abbreviations and acronyms:**
  - DOT: US Department of Transportation
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2
  - Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
- \* Data compared to the previous version altered.**

USA

## Safety Data Sheet acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

### 1 Identification

- **Product identifier**
- **Trade name:** **PROLUBE**
- **Article number:** LUB4A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS07

Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labeled due to the calculation procedure of international guidelines.
- **Classification system:**  
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 0

Fire = 1

Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 0

Fire = 1

Reactivity = 0

(Contd. on page 2)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: PROLUBE

(Contd. of page 1)

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Substances**
- **CAS No. Description**  
8042-47-5 mineral oil
- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

112-80-1	oleic acid, pure	2.5-10%
----------	------------------	---------

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Remove to fresh air. If symptoms persist consult a doctor.
- **After skin contact:** Generally the product does not irritate the skin.
- **After eye contact:**  
Rinse opened eye for a minimum of 15 minutes with running water. If symptoms persist, consult a doctor.
- **After swallowing:** Immediately contact a doctor or Poison Control Center.
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.

(Contd. on page 3)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: PROLUBE

(Contd. of page 2)

See Section 13 for disposal information.

## 7 Handling and storage

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**
- **General Information**
- **Appearance:**

Form:	Liquid
Color:	Yellow

(Contd. on page 4)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: PROLUBE

(Contd. of page 3)

· <b>Odor:</b>	Mild
· <b>Odor threshold:</b>	Not determined.
· <b>pH-value:</b>	Not determined.
· <b>Change in condition</b>	
<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
· <b>Flash point:</b>	Not applicable.
· <b>Flammability (solid, gaseous):</b>	Not applicable.
· <b>Ignition temperature:</b>	
<b>Decomposition temperature:</b>	Not determined.
· <b>Auto igniting:</b>	Product is not selfigniting.
· <b>Danger of explosion:</b>	Product does not present an explosion hazard.
· <b>Explosion limits:</b>	
<b>Lower:</b>	Not determined.
<b>Upper:</b>	Not determined.
· <b>Vapor pressure:</b>	Not determined.
· <b>Density at 20 °C (68 °F):</b>	0.895 g/cm <sup>3</sup> (7.469 lbs/gal)
· <b>Relative density</b>	Not determined.
· <b>Vapor density</b>	Not determined.
· <b>Evaporation rate</b>	Not determined.
· <b>Solubility in / Miscibility with Water:</b>	Not miscible or difficult to mix.
· <b>Partition coefficient (n-octanol/water):</b>	Not determined.
· <b>Viscosity:</b>	
<b>Dynamic:</b>	Not determined.
<b>Kinematic:</b>	Not determined.
· <b>Other information</b>	No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Extreme heat or open flames.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Oxides of carbon

USA

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: PROLUBE

(Contd. of page 4)

## 11 Toxicological information

- Information on toxicological effects

- Acute toxicity:

- Primary irritant effect:

- on the skin: No irritant effect.

- on the eye: No irritating effect.

- Sensitization: No sensitizing effects known.

- Additional toxicological information:

The product is not subject to classification according to internally approved calculation methods for preparations:

When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

- Carcinogenic categories

- IARC (International Agency for Research on Cancer)

None of the ingredients is listed.

- NTP (National Toxicology Program)

None of the ingredients is listed.

- OSHA-Ca (Occupational Safety & Health Administration)

None of the ingredients is listed.

## 12 Ecological information

- Toxicity

- Aquatic toxicity: No further relevant information available.

- Persistence and degradability: No further relevant information available.

- Bioaccumulative potential: No further relevant information available.

- Mobility in soil: No further relevant information available.

- Additional ecological information:

- General notes:

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

- Results of PBT and vPvB assessment

- PBT: Not applicable.

- vPvB: Not applicable.

- Other adverse effects: No further relevant information available.

## 13 Disposal considerations

- Waste treatment methods

- Recommendation: Dispose of in accordance with federal, state, and local regulations.

- Uncleaned packagings:

- Recommendation: Disposal must be made according to official regulations.

— USA —

(Contd. on page 6)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: PROLUBE

(Contd. of page 5)

## 14 Transport information

- |   |                 |
|---|-----------------|
| · UN-Number   |                 |
| · DOT, ADN, IMDG, IATA  | -               |
| · UN proper shipping name   |                 |
| · DOT, ADN, IMDG, IATA  | -               |
| · Transport hazard class(es)  |                 |
| · DOT, ADR, ADN, IMDG, IATA   |                 |
| · Class   | -               |
| · Packing group   |                 |
| · DOT, IMDG, IATA   | -               |
| · Environmental hazards:  |                 |
| · Marine pollutant:   | No              |
| · Special precautions for user  | Not applicable. |
| · Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code | Not applicable. |
| · UN "Model Regulation":  | -               |

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

### · Section 355 (extremely hazardous substances):

None of the ingredients is listed.

### · Section 313 (Specific toxic chemical listings):

None of the ingredients is listed.

### · TSCA (Toxic Substances Control Act):

All ingredients are listed.

### · Proposition 65

#### · Chemicals known to cause cancer:

None of the ingredients is listed.

#### · Chemicals known to cause reproductive toxicity for females:

None of the ingredients is listed.

#### · Chemicals known to cause reproductive toxicity for males:

None of the ingredients is listed.

#### · Chemicals known to cause developmental toxicity:

None of the ingredients is listed.

### · Carcinogenic categories

#### · EPA (Environmental Protection Agency)

None of the ingredients is listed.

#### · TLV (Threshold Limit Value established by ACGIH)

None of the ingredients is listed.

(Contd. on page 7)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/17/2014

Reviewed on 11/17/2014

Trade name: **PROLUBE**

(Contd. of page 6)

<ul style="list-style-type: none"> <li>• <b>NIOSH-Ca (National Institute for Occupational Safety and Health)</b></li> </ul>
---

None of the ingredients is listed.
------------------------------------

- **Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller/Keith Seyfried

- **Date of preparation / last revision** 11/17/2014 / 4

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

- **\* Data compared to the previous version altered.**

USA

## Safety Data Sheet

### I. IDENTIFICATION

Product identification used on label

Product Name: ROX-92  
Product Identifier: 0712-0587  
Recommended Use of the Chemical and restrictions on use: Fragrance

Company: Aulick Chemical Solutions  
111 Patton Ct.  
Nicholasville, KY 40356

Emergency Phone Number: EMERGENCY PHONE: (800) 535-5053  
INFORMATION PHONE: 412-252-1012  
INFORMATION FAX: 412-252-1014  
**IF SWALLOWED CALL YOUR POISON CONTROL CENTER AT 1-800-222-1222**

### II. HAZARD(S) IDENTIFICATION

---

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

GHS  
Hazard  
Symbols:



GHS Classification: Hazardous to the aquatic environment - Acute Category 1; Hazardous to the aquatic environment - Chronic Category 1; Skin Corrosion/Irritation Category 2; Flammable Liquid Category 3

GHS Signal Word: Warning

GHS Hazard Flammable liquid and vapour.; Causes skin irritation.; May cause an allergic skin reaction.; Very toxic to aquatic life.; Very toxic to aquatic life with long lasting effects.

GHS Precautions:

# Safety Data Sheet

<b>Safety Precautions:</b>	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. Wash thoroughly after handling. Contaminated work clothing should not be allowed out of the workplace. Avoid release to the environment. Wear protective gloves/protective clothing/eye protection/face protection.
<b>First Aid Measures:</b>	IF ON SKIN: Wash with plenty of soap and water. IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. If skin irritation occurs: Get medical advice/attention. If skin irritation or rash occurs: Get medical advice/attention. Take off contaminated clothing and wash before reuse. Wash contaminated clothing before reuse.
<b>Storage:</b>	Keep container tightly closed. Store in a well-ventilated place. Keep cool.
<b>Disposal:</b>	Dispose of contents/container in accordance with local/regional/national/international regulation for hazardous wastes.

## III. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	%
Cyclohexene, 1-methyl-4-(1-methylethenyl)-, (R)-	5989-27-5	40 - 70
Stoddard solvent	8052-41-3	10 - 30
Oils, pine	8002-09-3	3 - 7
Ethanone, 1-[(3R,3aR,7R,8aS)-2,3,4,7,8,8a-hexahydro-3,6,8,8-tetramethyl-1H-3a,7-methanoazulen-5-yl]-	32388-55-9	0.1 - 1
Heptanal, 2-(phenylmethylene)-	122-40-7	0.1 - 1
2-Propenal, 3-phenyl-	104-55-2	0.1 - 1
Benzenepropanal, .alpha.-methyl-4-(1-methylethyl)-	103-95-7	0.1 - 1
2H-1-Benzopyran-2-one	91-64-5	0.1 - 1
Phenol, 2-methyl-5-(1-methylethyl)-	499-75-2	0.1 - 1
Benzene, 1-methoxy-4-(1E)-1-propen-1-yl-	4180-23-8	0.1 - 1
2,6-Octadien-1-ol, 3,7-dimethyl-, (2E)-	106-24-1	0.1 - 1

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret is required.

## IV. FIRST-AID MEASURES

# Safety Data Sheet

<b>Inhalation:</b>	Remove to fresh air. If breathing is difficult, have a trained individual administer oxygen. If not breathing, give artificial respiration and have a trained individual administer oxygen. Get medical attention immediately
<b>Eyes:</b>	Flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention.
<b>Skin Contact:</b>	Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.
<b>Ingestion:</b>	Do not induce vomiting and seek medical attention immediately. Drink two glasses of water or milk to dilute. Provide medical care provider with this MSDS. Induce vomiting as a last measure. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis.
<b>Most important symptoms and effects - acute</b>	No Data Available
<b>Most important symptoms and effects - chronic</b>	No Data Available
<b>Notes to Doctor:</b>	No additional first aid information available

## V. FIRE FIGHTING MEASURES

<b><u>Flammability Summary:</u></b>	<b>Combustible</b>
<b>Extinguishing Media:</b>	Use alcohol resistant foam, carbon dioxide, or dry chemical extinguishing agents. Water may be ineffective but water spray can be used to extinguish a fire if swept across the base of the flames. Water can absorb heat and keep exposed material from being damaged by fire. Alcohol foam Dry chemical Carbon dioxide
<b>Extinguishing Media advised against:</b>	No Data Available
<b>Fire and/or Explosion Hazards:</b>	Vapors may be ignited by sparks, flames or other sources of ignition if material is above the flash point giving rise to a fire (Class B). Vapors are heavier than air and may travel to a source of ignition and flash back. Combustible Liquid. Can form explosive mixtures at temperatures at or above the flash point. Empty containers that retain product residue (liquid, solid/sludge, or vapor) can be dangerous. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose container to heat, flame, sparks, static electricity, or other sources of ignition. Any of these actions can potentially cause an explosion that may lead to injury or death. Container may explode in heat of fire.

# Safety Data Sheet

**Fire Fighting Methods and Protection:**

Do not enter fire area without proper protection including self-contained breathing apparatus and full protective equipment. Fight fire from a safe distance and a protected location due to the potential of hazardous vapors and decomposition products. Flammable component(s) of this material may be lighter than water and burn while floating on the surface.

**Hazardous Combustion Products:**

Carbon Oxides, Carbon monoxide, Carbon dioxide

## VI. ACCIDENTAL RELEASE MEASURES

**Personal Precautions and Equipment:**

No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section VIII of this MSDS

**Methods for Clean-up:**

Dispose of any spilled material in accordance with Federal, State, and any local laws.

## VII. HANDLING AND STORAGE

**Handling Technical Measures and Precautions:**

Mildly irritating material. Avoid unnecessary exposure. As with all chemicals, good industrial hygiene practices should be followed when handling this material. Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Wash thoroughly after handling Do not get in eyes, on skin and clothing Use spark-proof tools and explosion-proof equipment Ground and bond containers when transferring material "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Use with adequate ventilation

**Storage Technical Measures and Conditions:**

Store in a cool dry place. Isolate from incompatible materials. Store in a cool place in original container and protect from sunlight Keep away from heat, sparks, and flame Do not store near combustible materials Keep container closed when not in use Keep away from sources of ignition Store in a tightly closed container

**Materials to Avoid/Chemical Incompatibility:**

Strong oxidizing agents Acids Strong alkalis Nitrogen oxides

## VIII. EXPOSURE CONTROLS/PERSONAL PROTECTION

**Engineering Measures:**

No exposure limits exist for the constituents of this product. Use local exhaust ventilation or other engineering controls to minimize exposures and maintain operator comfort. Engineering controls must be designed to meet the OSHA chemical specific standard in 29 CFR 1910. Explosion proof exhaust ventilation should be used. Facilities storing or using this material should be equipped with an eyewash and safety shower. Use process enclosures, local exhaust ventilation, or other engineering controls to control airborne levels below recommended exposure limits

# Safety Data Sheet

<b>Respiratory Protection:</b>	Respiratory protection may be required to avoid overexposure when handling this product. General or local exhaust ventilation is the preferred means of protection. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. Follow a respiratory protection program that meets 29 CFR 1910.134 and ANSI Z88.2 requirements whenever work place conditions warrant the use of a respirator. Respiratory protection may be required in addition to ventilation depending upon conditions of use.
<b>Eye Protection:</b>	Wear chemically resistant safety glasses with side shields when handling this product. Do not wear contact lenses. Wear goggles and a Face shield
<b>Skin Protection:</b>	Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work. Where contact is likely, wear chemical resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield
<b>Gloves:</b>	No information available
<b>Handling Instructions:</b>	As with all chemicals, good industrial hygiene practices should be followed when handling this material. Avoid contact with material, avoid breathing dusts or fumes, use only in a well ventilated area. Wash thoroughly after handling. Do not get in eyes, on skin and clothing. Use spark-proof tools and explosion-proof equipment. Ground and bond containers when transferring material. "Empty" containers retain product residue (liquid and/or vapor) and can be dangerous. Use with adequate ventilation

## Control Parameters:

Chemical Name	ACGIH TLV-TWA	ACGIH STEL	OSHA PEL
Stoddard solvent	100 ppm TWA; 525 mg/m <sup>3</sup> TWA		500 ppm TWA; 2900 mg/m <sup>3</sup> TWA

## IX. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Liquid
<b>Color:</b>	Very pale yellow
<b>Odor:</b>	Mild Comparable to Standard
<b>Odor Threshold:</b>	ND
<b>pH:</b>	Not Available
<b>Melting Point/Freezing Point:</b>	-101 ° F
<b>Initial Boiling Point:</b>	307 - 347 ° F
<b>Flash Point:</b>	125 ° F
<b>Evaporation Rate:</b>	Not Available

# Safety Data Sheet

Flammability (Solid, Gas):	No Data Available
Upper Flammable/Explosive Limit:	6.0 6 %(V)
Lower Flammable/Explosive Limit:	1.1
Vapor Density:	> 1
Relative Density:	1
Solubility in Water:	Soluble in water- No
Octanol/Water Partition Coefficient:	3.86
Auto-ignition Temperature:	270 ° C
Decomposition Temperature:	215
Volatiles, % by weight:	6.98
Volatiles, % by weight:	6.98
Bulk Density:	8.161

## X. STABILITY AND REACTIVITY

Reactivity:	No Data Available
Chemical Stability:	Stable under normal conditions.
Possibility of Hazardous Reactions:	No Data Available
Conditions to Avoid:	Temperatures above flash point in combination with sparks, open flames, or other sources of ignition. Heat flame sparks
Materials to Avoid/Chemical Incompatibility:	Strong oxidizing agents Acids Strong alkalies Nitrogen oxides
Hazardous Decomposition Products:	Carbon dioxide Carbon monoxide Carbon Oxides

## XI. TOXICOLOGICAL INFORMATION

Routes of Entry:	Eye contact, Inhalation, Skin contact, Ingestion
Most Important Symptoms:	No Data Available
Target Organs Potentially Affected by Exposure:	Kidneys, Eyes, Skin, Nervous System, Respiratory Tract
Chemical Interactions That Change Toxicity:	None Known

# Safety Data Sheet

**Medical Conditions Aggravated by Exposure:** Kidney disease, Eye disease, Skin disease including eczema and sensitization, Respiratory disease including asthma and bronchitis

## Immediate (Acute) Health Effects by Route of Exposure:

<b>Inhalation Irritation:</b>	Can cause respiratory irritation.
<b>Skin Contact:</b>	Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage. May cause sensitization.
<b>Skin Absorption:</b>	Minimal hazard in normal industrial use. May cause gastrointestinal discomfort
<b>Eye Contact:</b>	Can cause moderate irritation, tearing and reddening, but not likely to permanently injure eye tissue.
<b>Ingestion Irritation:</b>	Irritating to mouth, throat, and stomach. Can cause abdominal discomfort, nausea, vomiting and diarrhea. Aspiration of material into the lungs can cause chemical pneumonitis.
<b>Ingestion Toxicity:</b>	Harmful if swallowed.

## Long-Term (Chronic) Health Effects:

<b>Carcinogenicity:</b>	None of the substances have been shown to cause cancer in long term animal studies. Not a carcinogen according to NTP, IARC, or OSHA.
<b>Reproductive toxicity:</b>	No data available to indicate product or any components present at greater than 0.1% may cause birth defects.
<b>Germ cell mutagenicity:</b>	No data available to indicate product or any components present at greater than 0.1% is mutagenic or genotoxic.
<b>Inhalation:</b>	Upon prolonged and/or repeated exposure, can cause moderate respiratory irritation, dizziness, weakness, fatigue, nausea and headache.
<b>Skin Contact:</b>	Upon prolonged or repeated contact, can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage.
<b>Skin Absorption:</b>	Upon prolonged or repeated exposure, minimal hazard in normal industrial use. May cause gastrointestinal discomfort.

## Component Toxicology Data:

Chemical Name	CAS Number	LD50/LC50
No data available		



# Safety Data Sheet

Has the chemical been classified as a Carcinogen by NTP, IARC or OSHA.

Chemical Name	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen
No Data Available			

## XII. ECOLOGICAL INFORMATION

Overview:	This material is not expected to be harmful to the ecology.
Mobility in Soil:	No Data Available
Persistence:	No Data Available
Bioaccumulation:	No Data Available
Other adverse effects	No Data Available

### Ecotoxicity Data

Chemical Name	CAS Number	Aquatic EC50 Crustacea	Aquatic ERC50 Algae	Aquatic LC50 Fish
No Data Available				

## XIII. DISPOSAL CONSIDERATIONS

Waste Description for Spent Product:	Spent or discarded material is a hazardous waste.
Waste Description for Empty Packaging:	No Data Available

# Safety Data Sheet

## Disposal Methods:

DO NOT DUMP INTO ANY SEWERS, ON THE GROUND, OR INTO ANY BODY OF WATER. All disposal practices must be in compliance with all Federal, State/Provincial and local laws and regulations. Regulations may vary in different locations. Waste characterizations and compliance with applicable laws are the sole responsibility of the waste generator. As your supplier, we have no control over the management practices or manufacturing processes of parties handling or using this material. The information presented here pertains only to the product when used as intended, according to this MSDS. For unused and uncontaminated product, the preferred options include sending to a licensed and permitted incinerator or other thermal destruction device. Various federal, state or provincial agencies may have specific regulations concerning the transportation, handling, storage, use or disposal of this product which may not be covered in this MSDS. The user shall have to review these regulations to ensure full compliance with all applicable regulations.

## Waste Disposal Code(s):

D001

## XIV. TRANSPORTATION INFORMATION

### US DOT Ground Shipping Description:

Not Restricted

### IATA Shipping Description:

UN1266, PERFUMERY PRODUCT, 3, PGIII

### IMDG Shipping Description:

UN1266, PERFUMERY PRODUCT, 3, PGIII

## XV. REGULATORY INFORMATION

**TSCA Status** All components in this product are on the TSCA Inventory.

### Chemical Name

### CAS #

### Regulation

### % Range

No 313-listed chemicals in this product

SARA 313

## XVI. OTHER INFORMATION

**Revision Date:** 05-28-2015

# Safety Data Sheet

**Disclaimer:** Important: While the descriptions, data and information contained herein are presented in good faith and believed to be accurate, it is provided for your guidance only. Because many factors may affect processing or application/use, we recommend that you perform an assessment to determine the suitability of the product for your particular purpose prior to use. Nothing herein should be interpreted as a recommendation to infringe existing patents or violate any laws or regulations. No warranties of any kind, either expressed or implied, including fitness for a particular purpose are made regarding the product described. We assume NO responsibility for any injuries resulting from misuse or misapplication of this product or that might be sustained because of inhalation, ingestion, absorption or other contact with this product. In no case shall the descriptions, information, or data provided be considered a part of our terms and conditions of sale. Further, the descriptions, data and information furnished hereunder are given gratis. No obligation or liability for the description, data and information given are assumed. All such being given and accepted at your risk.

## Safety Data Sheet acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

### 1 Identification

- **Product identifier** Industrial water treatment compound
- **Trade name:** **BLR 40**
- **Article number:** WBL40A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2A H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Corrosive

Causes burns.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Code letter and hazard designation of product:**



Corrosive

- **Risk phrases:**

Causes burns.

- **Safety phrases:**

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

(Contd. on page 2)

USA

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

**Trade name: BLR 40**

(Contd. of page 1)

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

### 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

64-02-8	tetrasodium ethylenediaminetetraacetate	15-25%
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### 4 First-aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:** Remove to fresh air. If symptoms persist consult a doctor.

- **After skin contact:** Immediately wash with water and soap and rinse thoroughly.

- **After eye contact:**

Flush opened eye with running water for a minimum of 15 minutes. Get medical attention.

- **After swallowing:**

Immediately contact a doctor or Poison Control Center.

Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.

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

No further relevant information available.

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

No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**

- **Suitable extinguishing agents:**

CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

Trade name: BLR 40

(Contd. of page 2)

- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to penetrate the ground/soil.  
Do not allow to enter surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Keep this and all chemicals out of the reach of children.  
Store in a cool, dry, well ventilated area.
- **Information about storage in one common storage facility:** Store away from acidic materials.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

### 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

Trade name: BLR 40

(Contd. of page 3)

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

• **Breathing equipment:** Not necessary if room is well-ventilated.

• **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

• **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

• **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

• **Eye protection:**



Tightly sealed goggles

• **Body protection:** Protective work clothing

## 9 Physical and chemical properties

• **Information on basic physical and chemical properties**

• **General Information**

• **Appearance:**

Form:

Liquid

Color:

Amber colored

• **Odor:**

Mild

• **Odor threshold:**

Not determined.

• **pH-value at 20 °C (68 °F):**

13

• **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

• **Flash point:**

Not applicable.

• **Flammability (solid, gaseous):**

Not applicable.

• **Ignition temperature:**

Decomposition temperature:

Not determined.

• **Auto igniting:**

Product is not selfigniting.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

Trade name: BLR 40

(Contd. of page 4)

- |   |   |
|---|---|
| · <b>Danger of explosion:</b>                     | Product does not present an explosion hazard. |
| · <b>Explosion limits:</b>                        |   |
| Lower:  | Not determined.                               |
| Upper:  | Not determined.                               |
| · <b>Vapor pressure:</b>                          | Not determined.                               |
| · <b>Density at 20 °C (68 °F):</b>                | 1.16 g/cm <sup>3</sup> (9.68 lbs/gal)         |
| · <b>Relative density</b>                         | Not determined.                               |
| · <b>Vapor density</b>                            | Not determined.                               |
| · <b>Evaporation rate</b>                         | Not determined.                               |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                               |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                               |
| · <b>Viscosity:</b>                               |   |
| Dynamic:  | Not determined.                               |
| Kinematic:  | Not determined.                               |
| · <b>Other information</b>                        | No further relevant information available.    |

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** Acids
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Corrosive  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
- **Carcinogenic categories**
- **IARC (International Agency for Research on Cancer)**  
None of the ingredients is listed.

(Contd. on page 6)

-USA-



# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

Trade name: BLR 40

(Contd. of page 5)

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**

- **DOT, ADN, IMDG, IATA**

-

- **UN proper shipping name**

- **DOT, ADN, IMDG, IATA**

-

- **Transport hazard class(es)**

- **DOT, ADR, ADN, IMDG, IATA**

- **Class**

-

- **Packing group**

- **DOT, IMDG, IATA**

-

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

Trade name: BLR 40

(Contd. of page 6)

- |  |                 |
|--|-----------------|
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | -               |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**



Corrosive

(Contd. on page 8)

USA

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 03/06/2015

Reviewed on 03/06/2015

**Trade name: BLR 40**

(Contd. of page 7)

- **Risk phrases:**

Causes burns.

- **Safety phrases:**

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller/Keith Seyfried

- **Date of preparation / last revision** 03/06/2015 / -

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

Skin Irrit. 2: Skin corrosion/irritation, Hazard Category 2

Eye Irrit. 2A: Serious eye damage/eye irritation, Hazard Category 2A

- **\* Data compared to the previous version altered.**

-USA-

## Safety Data Sheet acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

### 1 Identification

- **Product identifier** Antimicrobial
- **Trade name:** DUOQUAT (EPA REG. 10324-63-12446)
- **Article number:** LS1C
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.

- 
- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Irritant

Irritating to eyes and skin.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- 
- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Code letter and hazard designation of product:**



Irritant

- **Risk phrases:**

Irritating to eyes and skin.

- **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

(Contd. on page 2)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

Trade name: DUOQUAT (EPA REG. 10324-63-12446)

(Contd. of page 1)

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

Wear suitable gloves.

This material and its container must be disposed of as hazardous waste.

• **Classification system:**

• **NFPA ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

• **HMIS-ratings (scale 0 - 4)**



Health = 2

Fire = 0

Reactivity = 0

• **Other hazards**

• **Results of PBT and vPvB assessment**

• **PBT:** Not applicable.

• **vPvB:** Not applicable.

## 3 Composition/information on ingredients

• **Chemical characterization: Mixtures**

• **Description:** Mixture of the substances listed below with nonhazardous additions.

• **Dangerous components:**

68391-01-5	Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides	2.5-10%
85409-23-0	Alkyl dimethyl ethyl benzyl ammonium chloride (C12-14)	2.5-10%

## 4 First-aid measures

• **Description of first aid measures**

• **After inhalation:**

Remove to fresh air. If symptoms persist consult a doctor.

In case of unconsciousness, immediately seek medical attention.

• **After skin contact:**

Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.

• **After eye contact:**

Flush opened eye with running water for a minimum of 15 minutes. Get medical attention.

• **After swallowing:**

Immediately contact a doctor or Poison Control Center.

Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.

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

No further relevant information available.

• **Information for doctor:**

Probable mucosal damage may contraindicate the use of gastric lavage. Measures against circulatory shock and respiratory depression may be required.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

Trade name: DUOQUAT (EPA REG. 10324-63-12446)

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Do not allow to enter surface or ground water.  
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.

(Contd. on page 4)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

Trade name: DUOQUAT (EPA REG. 10324-63-12446)

(Contd. of page 3)

- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
- **Breathing equipment:** Not necessary if room is well-ventilated.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.
- **Penetration time of glove material**  
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Apron

## 9 Physical and chemical properties

### • Information on basic physical and chemical properties

#### • General Information

#### • Appearance:

Form:	Liquid
Color:	Colorless
Odor:	Characteristic
Odor threshold:	Not determined.

• pH-value at 20 °C (68 °F): 8

#### • Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

• Flash point: Not applicable.

• Flammability (solid, gaseous): Not applicable.

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

Trade name: DUOQUAT (EPA REG. 10324-63-12446)

(Contd. of page 4)

- |  |   |
|--|---|
| · Ignition temperature:                    |   |
| · Decomposition temperature:               | Not determined.                               |
| · Auto igniting:                           | Product is not selfigniting.                  |
| · Danger of explosion:                     | Product does not present an explosion hazard. |
| · Explosion limits:                        |   |
| Lower:                                     | Not determined.                               |
| Upper:                                     | Not determined.                               |
| · Vapor pressure:                          | Not determined.                               |
| · Density at 20 °C (68 °F):                | 0.995 g/cm <sup>3</sup> (8.303 lbs/gal)       |
| · Relative density                         | Not determined.                               |
| · Vapor density                            | Not determined.                               |
| · Evaporation rate                         | Not determined.                               |
| · Solubility in / Miscibility with Water:  | Fully miscible.                               |
| · Partition coefficient (n-octanol/water): | Not determined.                               |
| · Viscosity:                               |   |
| Dynamic:                                   | Not determined.                               |
| Kinematic:                                 | Not determined.                               |
| · Other information                        | No further relevant information available.    |

## 10 Stability and reactivity

- Reactivity
- Chemical stability Stable
- Thermal decomposition / conditions to be avoided:  
No decomposition if used according to specifications.
- Possibility of hazardous reactions No dangerous reactions known.
- Conditions to avoid Strong oxidizing agents, extreme heat, or open flames.
- Incompatible materials: Oxidizers or strong acids
- Hazardous decomposition products: Oxides of carbon

## 11 Toxicological information

- Information on toxicological effects
- Acute toxicity:

- LD/LC50 values that are relevant for classification:

68391-01-5 Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides

Oral | LD50 | 650 mg/kg (rat)

- Primary irritant effect:
- on the skin: Irritant to skin and mucous membranes.
- on the eye: Irritating effect.
- Sensitization: No sensitizing effects known.
- Additional toxicological information:

The product shows the following dangers according to internally approved calculation methods for preparations:

(Contd. on page 6)

-USA-



# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

Trade name: DUOQUAT (EPA REG. 10324-63-12446)

(Contd. of page 5)

Irritant

- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**

- **Aquatic toxicity:** No further relevant information available.

- **Persistence and degradability** No further relevant information available.

- **Bioaccumulative potential** No further relevant information available.

- **Mobility in soil** No further relevant information available.

- **Additional ecological information:**

- **General notes:**

Water hazard class 2 (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Danger to drinking water if even small quantities leak into the ground.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**

- **DOT, IMDG, IATA**

UN1903

- **UN proper shipping name**

- **DOT, IMDG, IATA**

Disinfectant, liquid, corrosive, n.o.s. (Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides)

(Contd. on page 7)

USA

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

Trade name: DUOQUAT (EPA REG. 10324-63-12446)

(Contd. of page 6)

· **Transport hazard class(es)**

· **DOT**



- **Class** 8 Corrosive substances
- **Label** 8
- **Class** 8 Corrosive substances
- **Label** 8

· **IMDG, IATA**



- **Class** 8 Corrosive substances
- **Label** 8

· **Packing group**

- **DOT, IMDG, IATA** III

· **Environmental hazards:**

- **Marine pollutant:** No

· **Special precautions for user**

Warning: Corrosive substances

· **Danger code (Kemler):**

80

· **EMS Number:**

F-A,S-B

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **Transport/Additional information:**

· **DOT**

· **Quantity limitations**

On passenger aircraft/rail: 5 L

On cargo aircraft only: 60 L

· **IMDG**

· **Limited quantities (LQ)**

5L

· **Excepted quantities (EQ)**

Code: E1

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 1000 ml

· **UN "Model Regulation":**

UN1903, Disinfectant, liquid, corrosive, n.o.s.  
(Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides), 8, III

USA

(Contd. on page 8)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

Trade name: DUOQUAT (EPA REG. 10324-63-12446)

(Contd. of page 7)

## 15 Regulatory information

- Safety, health and environmental regulations/legislation specific for the substance or mixture
- Sara

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

68391-01-5 Quaternary ammonium compounds, benzyl-C12-18-alkyldimethyl, chlorides

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**



Irritant

- **Risk phrases:**

Irritating to eyes and skin.

- **Safety phrases:**

Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

Wear suitable gloves.

This material and its container must be disposed of as hazardous waste.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

— USA —

(Contd. on page 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 04/15/2015

Reviewed on 04/15/2015

**Trade name: DUOQUAT (EPA REG. 10324-63-12446)**

(Contd. of page 8)

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller/Keith Seyfried
- **Date of preparation / last revision** 04/15/2015 / 2
- **Abbreviations and acronyms:**
  - ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
  - IMDG: International Maritime Code for Dangerous Goods
  - DOT: US Department of Transportation
  - IATA: International Air Transport Association
  - ACGIH: American Conference of Governmental Industrial Hygienists
  - EINECS: European Inventory of Existing Commercial Chemical Substances
  - ELINCS: European List of Notified Chemical Substances
  - CAS: Chemical Abstracts Service (division of the American Chemical Society)
  - NFPA: National Fire Protection Association (USA)
  - HMIS: Hazardous Materials Identification System (USA)
  - LC50: Lethal concentration, 50 percent
  - LD50: Lethal dose, 50 percent
  - Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B
  - Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1
- **\* Data compared to the previous version altered.**

—USA—

## Safety Data Sheet acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

### 1 Identification

- **Product identifier** Safety solvent detergent
- **Trade name:** **ProSOLV**
- **Article number:** LGS202Q
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Skin Corr. 1C H314 Causes severe skin burns and eye damage.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Corrosive

Causes burns.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Code letter and hazard designation of product:**



Corrosive

- **Risk phrases:**

Causes burns.

- **Safety phrases:**

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

(Contd. on page 2)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

Trade name: ProSOLV

(Contd. of page 1)

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **Other hazards**

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**

- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

111-76-2	2-butoxyethanol	≤ 2.5%
25155-30-0	sodium dodecylbenzenesulfonate	≤ 2.5%
67-63-0	propan-2-ol	≤ 2.5%

## 4 First-aid measures

- **Description of first aid measures**

- **General information:** Immediately remove any clothing soiled by the product.

- **After inhalation:**

In case of unconsciousness, immediately seek medical attention.

Remove to fresh air. If symptoms persist consult a doctor.

- **After skin contact:**

Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.

- **After eye contact:**

Immediately flush open eye with running water for a minimum of 15 minutes. Immediately get medical attention.

- **After swallowing:**

Immediately contact a doctor or Poison Control Center.

Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.

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

No further relevant information available.

(Contd. on page 3)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

Trade name: ProSOLV

(Contd. of page 2)

- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Do not allow to enter surface or ground water.  
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Keep this and all chemicals out of the reach of children.  
Store in a cool, dry, well ventilated area.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

Trade name: ProSOLV

(Contd. of page 3)

- Control parameters

- Components with limit values that require monitoring at the workplace:

**111-76-2 2-butoxyethanol**

PEL	Long-term value: 240 mg/m <sup>3</sup> , 50 ppm Skin
REL	Long-term value: 24 mg/m <sup>3</sup> , 5 ppm Skin
TLV	Long-term value: 97 mg/m <sup>3</sup> , 20 ppm BEI

**67-63-0 propan-2-ol**

PEL	Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
REL	Short-term value: 1225 mg/m <sup>3</sup> , 500 ppm Long-term value: 980 mg/m <sup>3</sup> , 400 ppm
TLV	Short-term value: 984 mg/m <sup>3</sup> , 400 ppm Long-term value: 492 mg/m <sup>3</sup> , 200 ppm BEI

- Ingredients with biological limit values:

**111-76-2 2-butoxyethanol**

BEI	200 mg/g creatinine Medium: urine Time: end of shift Parameter: Butoxyacetic acid with hydrolysis
-----	--

**67-63-0 propan-2-ol**

BEI	40 mg/L Medium: urine Time: end of shift at end of workweek Parameter: Acetone (background, nonspecific)
-----	---

- Additional information:** The lists that were valid during the creation were used as basis.

- Exposure controls

- Personal protective equipment:

- General protective and hygienic measures:

Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.

- Breathing equipment:** Not necessary if room is well-ventilated.

- Protection of hands:



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to

(Contd. on page 5)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

Trade name: ProSOLV

(Contd. of page 4)

be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:

Liquid

Color:

Blue

- **Odor:**

Solvent-like

- **Odor threshold:**

Not determined.

- **pH-value at 20 °C (68 °F):**

&gt;12.5

- **Change in condition**

Melting point/Melting range:

Undetermined.

Boiling point/Boiling range:

Undetermined.

- **Flash point:**

Not applicable.

- **Flammability (solid, gaseous):**

Not applicable.

- **Ignition temperature:**

Decomposition temperature:

Not determined.

- **Auto igniting:**

Product is not selfigniting.

- **Danger of explosion:**

Product does not present an explosion hazard.

- **Explosion limits:**

Lower:

Not determined.

Upper:

Not determined.

- **Vapor pressure:**

Not determined.

- **Density at 20 °C (68 °F):**

1.025 g/cm<sup>3</sup> (8.554 lbs/gal)

- **Relative density**

Not determined.

- **Vapor density**

Not determined.

- **Evaporation rate**

Not determined.

- **Solubility in / Miscibility with**

Water:

Fully miscible.

- **Partition coefficient (n-octanol/water):** Not determined.

- **Viscosity:**

Dynamic:

Not determined.

Kinematic:

Not determined.

(Contd. on page 6)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

Trade name: ProSOLV

(Contd. of page 5)

## · Other information

No further relevant information available.

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability** Stable
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used and stored according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** Do not mix with acids.
- **Incompatible materials:** Acids
- **Hazardous decomposition products:** Oxides of carbon

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** Caustic effect on skin and mucous membranes.
- **on the eye:** Strong caustic effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Corrosive  
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

111-76-2	2-butoxyethanol	3
67-63-0	propan-2-ol	3

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Must not reach bodies of water or drainage ditch undiluted or unneutralized.  
Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably

(Contd. on page 7)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

Trade name: ProSOLV

(Contd. of page 6)

reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

- **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.

- **vPvB:** Not applicable.

- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**

- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.

- **Uncleaned packagings:**

- **Recommendation:** Disposal must be made according to official regulations.

- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- **UN-Number**

- **DOT, ADN, IMDG, IATA** -

- **UN proper shipping name**

- **DOT, ADN, IMDG, IATA** -

- **Transport hazard class(es)**

- **DOT, ADR, ADN, IMDG, IATA**

- **Class** -

- **Packing group**

- **DOT, IMDG, IATA** -

- **Environmental hazards:**

- **Marine pollutant:** No

- **Special precautions for user** Not applicable.

- **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

- **UN "Model Regulation":** -

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

111-76-2	2-butoxyethanol
67-63-0	propan-2-ol

(Contd. on page 8)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

Trade name: ProSOLV

(Contd. of page 7)

- **TSCA (Toxic Substances Control Act):**

111-76-2	2-butoxyethanol
25155-30-0	sodium dodecylbenzenesulfonate
67-63-0	propan-2-ol

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

111-76-2	2-butoxyethanol	NL
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- **TLV (Threshold Limit Value established by ACGIH)**

111-76-2	2-butoxyethanol	A3
67-63-0	propan-2-ol	A4

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Hazard symbols:**



Corrosive

- **Risk phrases:**

Causes burns.

- **Safety phrases:**

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller/Keith Seyfried

- **Date of preparation / last revision** 11/03/2014 / 2

(Contd. on page 9)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/03/2014

Reviewed on 11/03/2014

**Trade name: ProSOLV**

(Contd. of page 8)

**• Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

Skin Corr. 1C: Skin corrosion/irritation, Hazard Category 1C

**• \* Data compared to the previous version altered.**

—USA—

## Safety Data Sheet acc. to OSHA HCS

Printing date 11/21/2014

Reviewed on 11/21/2014

### 1 Identification

- **Product identifier**
- **Trade name:** **PROTEC**
- **Article number:** LCL4A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS05 Corrosion

Eye Dam. 1 H318 Causes serious eye damage.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC** Not applicable.
- **Information concerning particular hazards for human and environment:**  
The product does not have to be labeled due to the calculation procedure of international guidelines.
- **Classification system:**  
The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 1  
Fire = 0  
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/21/2014

Reviewed on 11/21/2014

Trade name: PROTEC

(Contd. of page 1)

· **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

64-02-8	tetrasodium ethylenediaminetetraacetate	2.5-10%
111-76-2	2-butoxyethanol	2.5-10%

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** No special measures required.
- **After inhalation:** Remove to fresh air. If symptoms persist consult a doctor.
- **After skin contact:**  
Generally the product does not irritate the skin.  
Immediately rinse with water.
- **After eye contact:**  
Rinse opened eye for a minimum of 15 minutes with running water. If symptoms persist, consult a doctor.
- **After swallowing:**  
Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

## 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

## 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures** Not required.
- **Environmental precautions:**  
Do not allow to penetrate the ground/soil.  
Do not allow to enter surface or ground water.  
Dilute with plenty of water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).
- **Reference to other sections**  
See Section 7 for information on safe handling.

(Contd. on page 3)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/21/2014

Reviewed on 11/21/2014

Trade name: PROTEC

(Contd. of page 2)

See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## 7 Handling and storage

- **Precautions for safe handling** No special measures required.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Store in a cool, dry, well ventilated area.  
Keep this and all chemicals out of the reach of children.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** None.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**

### Components with limit values that require monitoring at the workplace:

#### 111-76-2 2-butoxyethanol

PEL	Long-term value: 240 mg/m <sup>3</sup> , 50 ppm Skin
REL	Long-term value: 24 mg/m <sup>3</sup> , 5 ppm Skin
TLV	Long-term value: 97 mg/m <sup>3</sup> , 20 ppm BEI

### Ingredients with biological limit values:

#### 111-76-2 2-butoxyethanol

BEI	200 mg/g creatinine Medium: urine Time: end of shift Parameter: Butoxyacetic acid with hydrolysis
-----	--

- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
The usual precautionary measures for handling chemicals should be followed.
- **Breathing equipment:** Not required.
- **Protection of hands:**  
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Material of gloves**  
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several

(Contd. on page 4)

USA



# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/21/2014

Reviewed on 11/21/2014

Trade name: PROTEC

(Contd. of page 3)

substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:** Goggles recommended during refilling.

## 9 Physical and chemical properties

- **Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form:	Liquid
Color:	Yellow
Odor:	Mild
Odor threshold:	Not determined.

- pH-value at 20 °C (68 °F): 10.0

- **Change in condition**

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

- Flash point: Not applicable.

- Flammability (solid, gaseous): Not applicable.

- **Ignition temperature:**

Decomposition temperature:	Not determined.
----------------------------	-----------------

- Auto igniting: Product is not selfigniting.

- Danger of explosion: Product does not present an explosion hazard.

- **Explosion limits:**

Lower:	Not determined.
Upper:	Not determined.

- Vapor pressure: Not determined.

- Density at 20 °C (68 °F): 1.035 g/cm<sup>3</sup> (8.637 lbs/gal)

- Relative density: Not determined.

- Vapor density: Not determined.

- Evaporation rate: Not determined.

- **Solubility in / Miscibility with**

Water:	Fully miscible.
--------	-----------------

- Partition coefficient (n-octanol/water): Not determined.

- **Viscosity:**

Dynamic:	Not determined.
----------	-----------------

Kinematic:	Not determined.
------------	-----------------

- Other information: No further relevant information available.

USA

(Contd. on page 5)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/21/2014

Reviewed on 11/21/2014

Trade name: PROTEC

(Contd. of page 4)

## 10 Stability and reactivity

- **Reactivity**
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** No dangerous decomposition products known.

## 11 Toxicological information

- **Information on toxicological effects**
- **Acute toxicity:**
- **Primary irritant effect:**
- **on the skin:** No irritant effect.
- **on the eye:** No irritating effect.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product is not subject to classification according to internally approved calculation methods for preparations:  
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.
- **Carcinogenic categories**

- **IARC (International Agency for Research on Cancer)**

111-76-2 | 2-butoxyethanol

3

- **NTP (National Toxicology Program)**

None of the ingredients is listed.

- **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

- **Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **Persistence and degradability** No further relevant information available.
- **Bioaccumulative potential** No further relevant information available.
- **Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**  
Water hazard class 1 (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

(Contd. on page 6)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/21/2014

Reviewed on 11/21/2014

Trade name: PROTEC

(Contd. of page 5)

· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |  |                 |
|--|-----------------|
| · <b>UN-Number</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | -               |
| · <b>UN proper shipping name</b>   |                 |
| · <b>DOT, ADN, IMDG, IATA</b>  | -               |
| · <b>Transport hazard class(es)</b>  |                 |
| · <b>DOT, ADR, ADN, IMDG, IATA</b>   |                 |
| · <b>Class</b>   | -               |
| · <b>Packing group</b>   |                 |
| · <b>DOT, IMDG, IATA</b>   | -               |
| · <b>Environmental hazards:</b>  |                 |
| · <b>Marine pollutant:</b>   | No              |
| · <b>Special precautions for user</b>  | Not applicable. |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | Not applicable. |
| · <b>UN "Model Regulation":</b>  | -               |

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**
- **Sara**

### · **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

### · **Section 313 (Specific toxic chemical listings):**

111-76-2 | 2-butoxyethanol

### · **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

### · **Proposition 65**

### · **Chemicals known to cause cancer:**

None of the ingredients is listed.

(Contd. on page 7)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 11/21/2014

Reviewed on 11/21/2014

Trade name: PROTEC

(Contd. of page 6)

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

111-76-2 2-butoxyethanol

NL

- **TLV (Threshold Limit Value established by ACGIH)**

111-76-2 2-butoxyethanol

A3

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Product related hazard informations:**

Observe the general safety regulations when handling chemicals.

The product is not subject to identification regulations according to directives on hazardous materials.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller/Keith Seyfried

- **Date of preparation / last revision** 11/21/2014 / 2

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

VOC: Volatile Organic Compounds (USA, EU)

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

- **\* Data compared to the previous version altered.**

USA

## Safety Data Sheet acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

### 1 Identification

- **Product identifier** Industrial water treatment compound
- **Trade name:** **TOWER 1**
- **Article number:** WTO1A
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
ZEE COMPANY, INC.  
4146 South Creek Road  
Chattanooga, TN 37406
- **Information department:** Technical Services: 423-698-1401
- **Emergency telephone number:** CHEMTREC: 800-424-9300

### 2 Hazard(s) identification

- **Classification of the substance or mixture**



Corrosion

Skin Corr. 1A H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



Acute Tox. 4 H302 Harmful if swallowed.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



Corrosive

Causes severe burns.

- **Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of international guidelines.

- **Classification system:**

The classification was made according to the latest editions of international substances lists, and expanded upon from company and literature data.

- **Label elements**

- **Labelling according to EU guidelines:**

The product has been classified and marked in accordance with directives on hazardous materials.

- **Code letter and hazard designation of product:**



Corrosive

(Contd. on page 2)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1

(Contd. of page 1)

- **Hazard-determining components of labeling:**  
potassium hydroxide

- **Risk phrases:**  
Causes severe burns.

- **Safety phrases:**  
In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.  
Wear suitable protective clothing, gloves and eye/face protection.  
In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).  
This material and its container must be disposed of as hazardous waste.

- **Classification system:**

- **NFPA ratings (scale 0 - 4)**



Health = 2  
Fire = 0  
Reactivity = 0

- **HMIS-ratings (scale 0 - 4)**



Health = 2  
Fire = 0  
Reactivity = 0

- **Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

## 3 Composition/information on ingredients

- **Chemical characterization: Mixtures**
- **Description:** Mixture of the substances listed below with nonhazardous additions.

- **Dangerous components:**

1310-58-3	potassium hydroxide	2.5-10%
64665-57-2	Sodium tolytriazole	2.5-10%

## 4 First-aid measures

- **Description of first aid measures**
- **General information:** Immediately remove any clothing soiled by the product.
- **After inhalation:**  
Remove to fresh air. If symptoms persist consult a doctor.  
In case of unconsciousness, immediately seek medical attention.
- **After skin contact:**  
Remove contaminated clothing and flush area with running water for a minimum of 15 minutes. If irritation persists consult a doctor.
- **After eye contact:**  
Flush opened eye with running water for a minimum of 15 minutes. Get medical attention immediately.

(Contd. on page 3)

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1

(Contd. of page 2)

- **After swallowing:**  
Immediately contact a doctor or Poison Control Center.  
Do not induce vomiting. Rinse mouth out with water, and drink several glasses of water. Never give anything by mouth to an unconscious person.
- **Most important symptoms and effects, both acute and delayed**  
No further relevant information available.
- **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

### 5 Fire-fighting measures

- **Extinguishing media**
- **Suitable extinguishing agents:**  
CO<sub>2</sub>, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** No special measures required.

### 6 Accidental release measures

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Dilute with plenty of water.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Use neutralizing agent.  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **Reference to other sections**  
See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

### 7 Handling and storage

- **Precautions for safe handling**  
Ensure good ventilation/exhaustion at the workplace.  
Prevent formation of aerosols.
- **Information about protection against explosions and fires:** No special measures required.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:**  
Keep this and all chemicals out of the reach of children.  
Store in a cool, dry, well ventilated area.
- **Information about storage in one common storage facility:** Store away from acidic materials.
- **Further information about storage conditions:** Keep receptacle tightly sealed.

(Contd. on page 4)

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1

(Contd. of page 3)

- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.

- **Control parameters**

- **Components with limit values that require monitoring at the workplace:**

### 1310-58-3 potassium hydroxide

REL Ceiling limit value: 2 mg/m<sup>3</sup>TLV Ceiling limit value: 2 mg/m<sup>3</sup>

- **Additional information:** The lists that were valid during the creation were used as basis.

- **Exposure controls**

- **Personal protective equipment:**

- **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing.

Wash hands before breaks and at the end of work.

Avoid contact with the eyes and skin.

- **Breathing equipment:** Use suitable respiratory protective device in case of insufficient ventilation.

- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

- **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:** Protective work clothing

USA

(Contd. on page 5)



# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1

(Contd. of page 4)

## 9 Physical and chemical properties

### · Information on basic physical and chemical properties

#### · General Information

#### · Appearance:

Form:	Liquid
Color:	Amber colored
Odor:	Mild
Odor threshold:	Not determined.

· pH-value at 20 °C (68 °F): >12.5

#### · Change in condition

Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.

· Flash point: Not applicable.

· Flammability (solid, gaseous): Not applicable.

#### · Ignition temperature:

Decomposition temperature: Not determined.

· Auto igniting: Product is not selfigniting.

· Danger of explosion: Product does not present an explosion hazard.

#### · Explosion limits:

Lower:	Not determined.
Upper:	Not determined.

· Vapor pressure: Not determined.

· Density at 20 °C (68 °F): 1.225 g/cm<sup>3</sup> (10.223 lbs/gal)

· Relative density: Not determined.

· Vapor density: Not determined.

· Evaporation rate: Not determined.

#### · Solubility in / Miscibility with

Water: Fully miscible.

· Partition coefficient (n-octanol/water): Not determined.

#### · Viscosity:

Dynamic: Not determined.

Kinematic: Not determined.

· Other information: No further relevant information available.

## 10 Stability and reactivity

### · Reactivity

· Chemical stability: Stable

### · Thermal decomposition / conditions to be avoided:

No decomposition if used according to specifications.

· Possibility of hazardous reactions: Reacts with acids.

· Conditions to avoid: Do not mix with acids.

· Incompatible materials: Acids

(Contd. on page 6)

-USA-

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1

(Contd. of page 5)

· **Hazardous decomposition products:** Oxides of carbon

## 11 Toxicological information

· **Information on toxicological effects**· **Acute toxicity:**· **LD/LC50 values that are relevant for classification:****1310-58-3 potassium hydroxide**

Oral | LD50 | 273 mg/kg (rat)

· **Primary irritant effect:**· **on the skin:** Strong caustic effect on skin and mucous membranes.· **on the eye:** Strong caustic effect.· **Sensitization:** No sensitizing effects known.· **Additional toxicological information:**

The product shows the following dangers according to internally approved calculation methods for preparations:

Corrosive

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

· **Carcinogenic categories**· **IARC (International Agency for Research on Cancer)**

None of the ingredients is listed.

· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

## 12 Ecological information

· **Toxicity**· **Aquatic toxicity:**

Ceriodaphnia dubia 48 hr LC50 2319 mg/L. Pimephales promelas 48 hr LC50 1410 mg/L.

· **Persistence and degradability** No further relevant information available.· **Bioaccumulative potential** No further relevant information available.· **Mobility in soil** No further relevant information available.· **Additional ecological information:**· **General notes:**

Water hazard class 1 (Self-assessment): slightly hazardous for water

Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

Must not reach bodies of water or drainage ditch undiluted or unneutralized.

Rinse off of bigger amounts into drains or the aquatic environment may lead to increased pH-values. A high pH-value harms aquatic organisms. In the dilution of the use-level the pH-value is considerably reduced, so that after the use of the product the aqueous waste, emptied into drains, is only low water-dangerous.

· **Results of PBT and vPvB assessment**· **PBT:** Not applicable.· **vPvB:** Not applicable.

(Contd. on page 7)

-USA-

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1



(Contd. of page 6)

- **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation:** Dispose of in accordance with federal, state, and local regulations.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.
- **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

- |   |   |
|---|---|
| · <b>UN-Number</b>  | UN1760  |
| · <b>DOT, IMDG, IATA</b>  |   |
| · <b>UN proper shipping name</b>  | Corrosive liquids, n.o.s. (Potassium hydroxide) |
| · <b>DOT, IMDG, IATA</b>  |   |
| · <b>Transport hazard class(es)</b>   |   |
| · <b>DOT</b>  |   |
|   |   |
| · <b>Class</b>  | 8 Corrosive substances                          |
| · <b>Label</b>  | 8   |
| · <b>Class</b>  | 8 Corrosive substances                          |
| · <b>Label</b>  | 8   |
| -----   |   |
| · <b>IMDG, IATA</b>   |   |
|  |   |
| · <b>Class</b>  | 8 Corrosive substances                          |
| · <b>Label</b>  | 8   |
| · <b>Packing group</b>  | II  |
| · <b>DOT, IMDG, IATA</b>  |   |
| · <b>Environmental hazards:</b>   |   |
| · <b>Marine pollutant:</b>  | No  |
| · <b>Special precautions for user</b>   | Warning: Corrosive substances                   |
| · <b>Danger code (Kemler):</b>  | 80  |
| · <b>EMS Number:</b>  | F-A,S-B   |
| · <b>Segregation groups</b>   | Alkalis   |
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b>    | Not applicable.                                 |

(Contd. on page 8)

USA

# Safety Data Sheet

acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1

(Contd. of page 7)

- **Transport/Additional information:**

- **DOT**

- **Quantity limitations**

On passenger aircraft/rail: 1 L

On cargo aircraft only: 30 L

- **IMDG**

- **Limited quantities (LQ)**

1L

- **Excepted quantities (EQ)**

Code: E2

Maximum net quantity per inner packaging: 30 ml

Maximum net quantity per outer packaging: 500 ml

- **UN "Model Regulation":**

UN1760, Corrosive liquids, n.o.s. (Potassium hydroxide), 8, II

## 15 Regulatory information

- **Safety, health and environmental regulations/legislation specific for the substance or mixture**

- **Sara**

- **Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

- **Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

- **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

- **Proposition 65**

- **Chemicals known to cause cancer:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.

- **Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

- **Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

- **Carcinogenic categories**

- **EPA (Environmental Protection Agency)**

None of the ingredients is listed.

- **TLV (Threshold Limit Value established by ACGIH)**

None of the ingredients is listed.

- **NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.

- **Product related hazard informations:**

The product has been classified and marked in accordance with directives on hazardous materials.

(Contd. on page 9)

USA

# Safety Data Sheet

## acc. to OSHA HCS

Printing date 05/01/2015

Reviewed on 05/01/2015

Trade name: TOWER 1

(Contd. of page 8)

- **Hazard symbols:**



Corrosive

- **Hazard-determining components of labeling:**

potassium hydroxide

- **Risk phrases:**

Causes severe burns.

- **Safety phrases:**

In case of contact with eyes, rinse immediately with running water for at least 15 minutes. Get medical attention.

Wear suitable protective clothing, gloves and eye/face protection.

In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

This material and its container must be disposed of as hazardous waste.

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

- **Contact:** Jim Faller/Keith Seyfried

- **Date of preparation / last revision** 05/01/2015 / 1

- **Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

DOT: US Department of Transportation

IATA: International Air Transport Association

ACGIH: American Conference of Governmental Industrial Hygienists

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

NFPA: National Fire Protection Association (USA)

HMIS: Hazardous Materials Identification System (USA)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

Acute Tox. 4: Acute toxicity, Hazard Category 4

Skin Corr. 1A: Skin corrosion/irritation, Hazard Category 1A

Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1

- **\* Data compared to the previous version altered.**

-USA-