



JACAM CATALYST

SAFETY DATA SHEET

OCI 1035 (summer)

Section 1. Identification

GHS product identifier : OCI 1035 (summer)

Other means of identification : Not available.

Product use : Corrosion inhibitor.

Product type : Liquid.

Manufacturer : Jacam Catalyst, LLC
11999 E Hwy 158
Gardendale, TX 79758

Validation date : 10/23/2018

**For Chemical Emergency
Spill, Leak Fire, Exposure or
Accident:** : **Call CHEMTREC Day or Night
Within USA and Canada 800-424-9300
Or +1 703-527-3887 (Collect calls accepted)**

**Direct all other calls to:
Jacam Chemicals 2013, L.L.C. 620-278-3355
Mon – Fri 8 a.m. to 5 p.m. (Closed on major holidays)**

Supplier's details : Jacam Chemicals 2013, L.L.C.
P.O. Box 96, 205 S. Broadway
Sterling, Kansas 67579

Section 2. Hazards identification

Classification of the substance or mixture : FLAMMABLE LIQUIDS - Category 3
ACUTE TOXICITY (oral) - Category 4
ACUTE TOXICITY (dermal) - Category 4
SKIN IRRITATION - Category 2
SERIOUS EYE DAMAGE - Category 1
SKIN SENSITIZATION - Category 1
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Narcotic effects) - Category 3

Section 2. Hazards identification

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: H226 - Flammable liquid and vapor.
 H302 + H312 - Harmful if swallowed or in contact with skin.
 H318 - Causes serious eye damage.
 H315 - Causes skin irritation.
 H317 - May cause an allergic skin reaction.
 H336 - May cause drowsiness or dizziness.

Precautionary statements

General

: P103 - Read label before use.
 P102 - Keep out of reach of children.
 P101 - If medical advice is needed, have product container or label at hand.

Prevention

: P280 - Wear protective gloves. Wear eye or face protection. Wear protective clothing.
 P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P240 - Ground/bond container and receiving equipment.
 P241 - Use explosion-proof electrical, ventilating, lighting and all material-handling equipment.
 P242 - Use only non-sparking tools.
 P243 - Take precautionary measures against static discharge.
 P233 - Keep container tightly closed.
 P271 - Use only outdoors or in a well-ventilated area.
 P261 - Avoid breathing vapor.
 P270 - P270 - Do not eat, drink or smoke when using this product.
 P264 - Wash hands thoroughly after handling.
 P272 (OSHA) - Contaminated work clothing must not be allowed out of the workplace.

Response

: P304 + P340 + P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
 P301 + P312 + P330 - IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth.
 P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
 P302 + P352 + P312 + P363 - IF ON SKIN: Wash with plenty of soap and water. Call a POISON CENTER or physician if you feel unwell. Wash contaminated clothing before reuse.
 P333 + P313 - If skin irritation or rash occurs: Obtain medical attention.
 P305 + P351 + P338 + P310 - IF IN EYES: Rinse cautiously with water for 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or physician.
 P370 + P378 In Case of Fire: Use dry chemical, CO₂, water spray (fog) or foam to extinguish.

Storage

: P405 - Store locked up.
 P403 - Store in a well-ventilated place.
 P235 - Keep cool.

Section 2. Hazards identification

Disposal	: P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	: None known.
Routes of entry	: Dermal contact. Eye contact. Inhalation. Ingestion. INGESTION: Although not a normal route of entry, ingestion is expected to be harmful. DO NOT TAKE INTERNALLY. FOR INDUSTRIAL USE ONLY.
Target organs	: Contains material which may cause damage to the following organs: blood, kidneys, liver, spleen, lymphatic system, upper respiratory tract, skin, bone marrow, central nervous system (CNS), eye, lens or cornea.

Section 3. Composition/information on ingredients

Substance/mixture	: Mixture
Other means of identification	: Not available.

CAS number/other identifiers

CAS number	: Not applicable.
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Ingredient name	%	CAS number
Heavy Aromatic Naphtha	30 - 60	64741-68-0
Ethylene Glycol Monobutyl Ether	10 - 30	111-76-2
glycerol	5 - 10	56-81-5
Pyridine, alkyl derivs.	1 - 5	68391-11-7
Proprietary	1 - 5	Proprietary
Quaternary ammonium compounds, benzlcoco alkyldimethyl, chlorides	1 - 5	61789-71-7
2-mercaptoethanol	1 - 5	60-24-2
Proprietary	1 - 5	Proprietary

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

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

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

Section 4. First aid measures

Description of necessary first aid measures

Eye contact	: If irritation persists, obtain medical attention. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician.
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Section 4. First aid measures

- Inhalation** : If irritation persists, obtain medical attention. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Skin contact** : If irritation persists, obtain medical attention. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 15 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : If irritation persists, obtain medical attention. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
- Ingestion** : Adverse symptoms may include the following:
stomach pains

Section 4. First aid measures

<u>Specific target organ toxicity (single exposure)</u>			
Name	Category	Route of exposure	Target organs
Heavy Aromatic Naphtha	Category 3	Not applicable.	Narcotic effects

Specific target organ toxicity (repeated exposure)
 Not available.

<u>Aspiration hazard</u>	
Name	Result
Heavy Aromatic Naphtha	ASPIRATION HAZARD - Category 1

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

- Notes to physician** : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Specific treatments** : No specific treatment.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Fire-fighting measures

Extinguishing media

- Suitable extinguishing media** : Use dry chemical, CO₂, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

Specific hazards arising from the chemical

: Flammable liquid and vapor. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. The vapor/gas is heavier than air and will spread along the ground. Vapors may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back. Runoff to sewer may create fire or explosion hazard.

Additional Vapor Statement

: Not available.
 Not available.

Hazardous thermal decomposition products

: Decomposition products may include the following materials:
 carbon dioxide
 carbon monoxide
 nitrogen oxides
 sulfur oxides

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Section 5. Fire-fighting measures

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

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

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

Methods and materials for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

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

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. Empty containers retain product residue and can be hazardous. Do not reuse container.

Section 7. Handling and storage

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

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

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Ethylene Glycol Monobutyl Ether	<p>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin. TWA: 25 ppm 8 hours. TWA: 120 mg/m³ 8 hours.</p> <p>NIOSH REL (United States, 10/2013). Absorbed through skin. TWA: 5 ppm 10 hours. TWA: 24 mg/m³ 10 hours.</p> <p>ACGIH TLV (United States, 4/2014). TWA: 20 ppm 8 hours.</p> <p>OSHA PEL (United States, 2/2013). Absorbed through skin. TWA: 50 ppm 8 hours. TWA: 240 mg/m³ 8 hours.</p>
glycerol	<p>OSHA PEL 1989 (United States, 3/1989). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 10 mg/m³ 8 hours. Form: Total dust</p> <p>OSHA PEL (United States, 2/2013). TWA: 5 mg/m³ 8 hours. Form: Respirable fraction TWA: 15 mg/m³ 8 hours. Form: Total dust</p>
2-mercaptoethanol	<p>AIHA WEEL (United States, 10/2011). Absorbed through skin. TWA: 0.2 ppm 8 hours.</p>

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Section 8. Exposure controls/personal protection

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

Individual protection measures

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. P272 - Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Skin protection

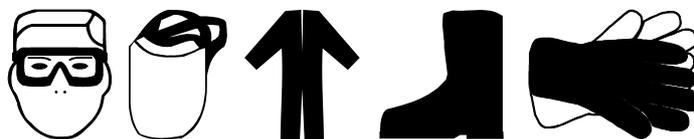
Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are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

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

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

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Personal protective equipment (Pictograms) :



Section 9. Physical and chemical properties

Appearance

Physical state : Liquid.
Color : Dark Brown.

Odor : Strong.
Odor threshold : Not available.

pH : 6.5 to 8.5

Melting point : <-23.333°C (<-10°F)

Section 9. Physical and chemical properties

Boiling point	: Not available.
Flash point	: Closed cup: 46.111°C (115°F) [Pensky-Martens.]
Evaporation rate	: Not available.
Flammability (solid, gas)	: Not available.
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	: Not available.
Vapor density	: >1 [Air = 1]
Relative density	: 0.9 to 0.96
Density	: 7.51 to 8.03 (lbs/gal)
Solubility	: Insoluble in the following materials: cold water and hot water.
Partition coefficient: n-octanol/ water	: Not available.
Auto-ignition temperature	: Not available.
Decomposition temperature	: Not available.
Viscosity	: Not available.

Section 10. Stability and reactivity

Reactivity	: No specific test data related to reactivity available for this product or its ingredients.
Chemical stability	: The product is stable.
Possibility of hazardous reactions	: Under normal conditions of storage and use, hazardous reactions will not occur.
Conditions to avoid	: Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition. Do not allow vapor to accumulate in low or confined areas.
Incompatible materials	: Reactive or incompatible with the following materials: oxidizing materials
Hazardous decomposition products	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Heavy Aromatic Naphtha	LD50 Oral	Rat	4800 mg/kg	-
Ethylene Glycol Monobutyl Ether	LD50 Dermal	Rabbit	220 mg/kg	-
glycerol	LD50 Oral	Rat	250 mg/kg	-
Pyridine, alkyl derivs.	LD50 Oral	Rat	12600 mg/kg	-
	LC50 Inhalation Vapor	Rat - Female	2.67 mg/l	4 hours
	LD50 Dermal	Rabbit	1000 mg/kg	-
	LD50 Oral	Rat	1350 mg/kg	-
Proprietary	LD50 Oral	Rat	5000 mg/kg	-

Section 11. Toxicological information					
Quaternary ammonium compounds, benzococ alkyldimethyl, chlorides	LD50 Dermal	Rabbit	2000 mg/kg	-	
2-mercaptoethanol Proprietary	LD50 Oral	Rat	1231 mg/kg	-	
	LD50 Oral	Rat	244 mg/kg	-	
	LD50 Dermal	Rat	5050 mg/kg	-	
	LD50 Oral	Rat	550 mg/kg	-	

<u>Irritation/Corrosion</u>					
Product/ingredient name	Result	Species	Score	Exposure	Observation
Heavy Aromatic Naphtha	Skin - Severe irritant	Rabbit	-	500 milligrams	-
Ethylene Glycol Monobutyl Ether	Eyes - Moderate irritant	Rabbit	-	24 hours 100 milligrams	-
	Eyes - Severe irritant	Rabbit	-	100 milligrams	-
	Skin - Mild irritant	Rabbit	-	500 milligrams	-
glycerol	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
Pyridine, alkyl derivs.	Eyes - Cornea opacity	Mouse	1	-	-
	Skin - Irritant	Rabbit	-	4 minutes	12 days
Quaternary ammonium compounds, benzococ alkyldimethyl, chlorides	Skin - Visible necrosis	Rabbit	-	4 minutes	12 days
2-mercaptoethanol Proprietary	Eyes - Severe irritant	Rabbit	-	2 milligrams	-
	Skin - Visible necrosis	Rabbit	-	72 hours	14 days
	Eyes - Severe irritant	Rabbit	-	-	-

<u>Sensitization</u>			
Product/ingredient name	Route of exposure	Species	Result
Pyridine, alkyl derivs.	skin	Mouse	Sensitizing
Proprietary	skin	Guinea pig	Not sensitizing

<u>Mutagenicity</u>			
Product/ingredient name	Test	Experiment	Result
Not available.			

<u>Carcinogenicity</u>				
Product/ingredient name	Result	Species	Dose	Exposure
Not available.				

Product/ingredient name
Not available.

<u>Reproductive toxicity</u>						
Product/ingredient name	Maternal toxicity	Fertility	Development toxin	Species	Dose	Exposure
Not available.						

Section 11. Toxicological information

<u>Teratogenicity</u>				
Product/ingredient name	Result	Species	Dose	Exposure
Not available.				

<u>Specific target organ toxicity (single exposure)</u>			
Name	Category	Route of exposure	Target organs
Heavy Aromatic Naphtha	Category 3	Not applicable.	Narcotic effects

<u>Specific target organ toxicity (repeated exposure)</u>
Not available.

<u>Aspiration hazard</u>	
Name	Result
Heavy Aromatic Naphtha	ASPIRATION HAZARD - Category 1

Information on the likely ToxKinetics - routes of exposure : Routes of entry anticipated: Oral, Dermal, Inhalation.

Potential acute health effects

- Eye contact** : Causes serious eye damage.
- Inhalation** : Can cause central nervous system (CNS) depression. May cause drowsiness or dizziness.
- Skin contact** : Harmful in contact with skin. Causes skin irritation. May cause an allergic skin reaction.
- Ingestion** : Harmful if swallowed. Can cause central nervous system (CNS) depression.

Symptoms related to the physical, chemical and toxicological characteristics

- Eye contact** : Adverse symptoms may include the following:
pain
watering
redness
- Inhalation** : Adverse symptoms may include the following:
nausea or vomiting
headache
drowsiness/fatigue
dizziness/vertigo
unconsciousness
- Skin contact** : Adverse symptoms may include the following:
pain or irritation
redness
- Ingestion** : Adverse symptoms may include the following:
stomach pains

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

Short term exposure

- Potential immediate effects** : Not available.
- Potential delayed effects** : Not available.

Long term exposure

Section 11. Toxicological information

Potential immediate effects : Not available.

Potential delayed effects : Not available.

Potential chronic health effects

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Carcinogenicity : No known significant effects or critical hazards.

Mutagenicity : No known significant effects or critical hazards.

Teratogenicity : No known significant effects or critical hazards.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Oral	1163.5 mg/kg
Dermal	1348.3 mg/kg
Inhalation (vapors)	63.57 mg/l

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
Heavy Aromatic Naphtha	Acute NOEC 0.01 mg/l	Fish	96 hours
Ethylene Glycol Monobutyl Ether	Acute EC50 1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
Quaternary ammonium compounds, benzococ alkyldimethyl, chlorides	Acute EC50 0.032 mg/l	Daphnia	48 hours
	Acute LC50 0.145 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours
Proprietary	Acute EC50 104 ppb Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 577 ppb Marine water	Fish - Menidia menidia	96 hours

Conclusion/Summary : Not available.

Persistence and degradability

Not available.

Product/ingredient name

Not available.

Product/ingredient name

Section 12. Ecological information

Not available.

Product/ingredient name	LogP _{ow}	BCF	Potential
Heavy Aromatic Naphtha	-	10 to 2500	high
Ethylene Glycol Monobutyl Ether	0.81	-	low
glycerol	-1.76	-	low
2-mercaptoethanol	-0.056	-	low

Mobility in soil

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

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

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

RCRA classification : Not applicable.

Section 14. Transport information

Regulatory information	UN/NA Number	Proper shipping name	Hazard Class(es)	PG*
			PG* : Packing group	
DOT Classification				
	UN1993	FLAMMABLE LIQUID, N.O.S. (Heavy Aromatic Naphtha)	3	III

Additional information

Emergency Response Guide (ERG): 128

Section 14. Transport information

This product may be re-classified as "Combustible Liquid," unless transported by vessel or aircraft. Non-bulk packages (less than or equal to 119 gal) of combustible liquids are not regulated as hazardous materials.

Label



TDG Classification

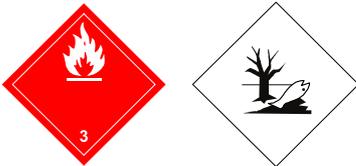
UN1993	FLAMMABLE LIQUID, N.O.S. (Heavy Aromatic Naphtha). Marine pollutant (Heavy Aromatic Naphtha)	3	III
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Additional information

Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.18-2.19 (Class 3), 2.7 (Marine pollutant mark).

The marine pollutant mark is not required when transported by road or rail.

Label



IMDG Class

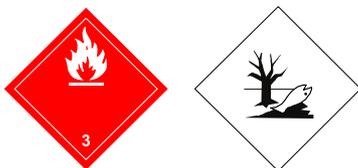
UN1993	FLAMMABLE LIQUID, N.O.S. (Heavy Aromatic Naphtha). Marine pollutant (Heavy Aromatic Naphtha)	3	III
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Marine pollutant notes: : Not available.

Additional information

The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.

Label



IATA-DGR Class

UN1993	FLAMMABLE LIQUID, N.O.S. (Heavy Aromatic Naphtha)	3	III
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Additional information

The environmentally hazardous substance mark may appear if required by other transportation regulations.

Section 14. Transport information

Label



Section 15. Regulatory information

U.S. Federal regulations

TSCA 8(a) CDR Exempt/Partial exemption: Not determined
 All components are listed or exempted.
Clean Water Act (CWA) 311: Proprietary

Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs) : Listed

Clean Air Act Section 602 Class I Substances : Not listed

Clean Air Act Section 602 Class II Substances : Not listed

DEA List I Chemicals (Precursor Chemicals) : Not listed

DEA List II Chemicals (Essential Chemicals) : Not listed

SARA 302/304

Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

SARA 311/312

Classification : Fire hazard
 Immediate (acute) health hazard

Composition/information on ingredients

Name	%	Fire hazard	Sudden release of pressure	Reactive	Immediate (acute) health hazard	Delayed (chronic) health hazard
Heavy Aromatic Naphtha	30 - 60	Yes.	No.	No.	Yes.	No.
Ethylene Glycol Monobutyl Ether glycerol	10 - 30	Yes.	No.	No.	Yes.	Yes.
Pyridine, alkyl derivs.	5 - 10	No.	No.	No.	Yes.	No.
Proprietary	1 - 5	No.	No.	No.	Yes.	No.
Quaternary ammonium compounds, benzococ alkyldimethyl, chlorides	1 - 5	No.	No.	No.	Yes.	No.
2-mercaptoethanol	1 - 5	Yes.	No.	No.	Yes.	No.
Proprietary	1 - 5	No.	No.	No.	Yes.	No.

SARA 313

Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	Ethylene Glycol Monobutyl Ether	111-76-2	10 - 30
Supplier notification	Ethylene Glycol Monobutyl Ether	111-76-2	10 - 30

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

State regulations

- Massachusetts** : The following components are listed: 2-BUTOXYETHANOL; GLYCERINE MIST; 2-MERCAPTOETHANOL
- New York** : None of the components are listed.
- New Jersey** : The following components are listed: 2-BUTOXY ETHANOL; BUTYL CELLOSOLVE; GLYCERIN; 1,2,3-PROPANETRIOL; THIOGLYCOL; 2-MERCAPTOETHANOL
- Pennsylvania** : The following components are listed: ETHANOL, 2-BUTOXY-; 1,2, 3-PROPANETRIOL; ETHANOL, 2-MERCAPTO-

California Prop. 65

WARNING: This product contains less than 1% of a chemical known to the State of California to cause birth defects or other reproductive harm.

Ingredient name	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
methanol	No.	Yes.	No.	23000 µg/day (ingestion) 47000 µg/day (inhalation)

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol (Annexes A, B, C, E)

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Canadian lists

- Canadian NPRI (Pollution Release)** : The following components are listed: 2-Butoxyethanol
- CEPA Toxic substances** : The following components are listed: 2-butoxyethanol
- Canada inventory-DSL / NDSL** : All components are listed or exempted.

International lists

National inventory

- Australia** : Not determined.
- Canada** : All components are listed or exempted.
- China** : All components are listed or exempted.

Section 15. Regulatory information

Europe	: Not determined.
Japan	: Japan inventory (ENCS): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined.
New Zealand	: All components are listed or exempted.
Philippines	: Not determined.
Republic of Korea	: All components are listed or exempted.
Taiwan	: Not determined.

Section 16. Other information

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



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Copyright ©2001, National Fire Protection Association, Quincy, MA 02269. This warning system is intended to be interpreted and applied only by properly trained individuals to identify fire, health and reactivity hazards of chemicals. The user is referred to certain limited number of chemicals with recommended classifications in NFPA 49 and NFPA 325, which would be used as a guideline only. Whether the chemicals are classified by NFPA or not, anyone using the 704 systems to classify chemicals does so at their own risk.

Normal Package Size(s): Ball: 2" Ball 50/Cooler; 4" Ball 12/Cooler
 Dry Product: 50 Lbs/Box
 Liquid: 5 Gallon/55 Gallon/Bulk
 Pellets: 30 Lbs/Cooler; 24 Lbs/Pail
 Stix: 1 1/4": 50 Each/Cooler

History

Date of issue/Date of revision	: 10/23/2018
Version	: 1
Date of previous issue	: No previous validation
Previous Validation Date	: No previous validation
Prepared by	: Jacam Regulatory Department
SDS Requests:	: sds@jacamcatalyst.com

Key to abbreviations :

- ATE = Acute Toxicity Estimate
- BCF = Bioconcentration Factor
- GHS = Globally Harmonized System of Classification and Labelling of Chemicals
- IATA = International Air Transport Association
- IBC = Intermediate Bulk Container
- IMDG = International Maritime Dangerous Goods
- LogPow = logarithm of the octanol/water partition coefficient
- MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)

Section 16. Other information

References

UN = United Nations
: Not available.

✔ Indicates information that has changed from previously issued version.

Notice to reader

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*** END OF SDS ***