

## SAFETY DATA SHEET

### Activator 99322

#### Section 1. Identification

**GHS product identifier** : **Activator 99322**  
**Other means of identification** : 99322/000000 Activator 99322

**Product type** : Liquid.

**Relevant identified uses of the substance or mixture and uses advised against**  
: FOR INDUSTRIAL USE ONLY

**Supplier/Manufacturer** : Akzo Nobel Coatings, Inc.  
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Waukegan, IL 60085  
USA  
Tel. 1 847 623 4200  
Email: customer.  
service@akzonobel.com

**Canadian Supplier** : Akzo Nobel Coatings Ltd.  
110 Woodbine Downs Blvd.  
Unit #4 Etobicoke, Ontario  
Canada M9W 5S6  
+1 (800) 618-1010

**Emergency telephone number** : CHEMTREC +1 (800) 424-9300 (Inside the US)  
CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls accepted)

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Akzo Nobel Coatings Inc. encourages and expects you to read and understand this entire MSDS, as there is important information throughout the document. Further, Akzo Nobel Coatings Inc. expects you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information contained in this MSDS and any other information regarding hazards and safety; 2) Furnish this same information to each of its customers for the product; 3) Request its customers to notify their employees, customers, and other users of the product of this information; and 4) Notify its employees, agents, contractors, and others that the precautions identified for this product and any other products with which mixtures may be created are transferable and cumulative to the mixture.

#### Section 2. Hazards identification

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

## Section 2. Hazards identification

**Classification of the substance or mixture** : FLAMMABLE LIQUIDS - Category 2  
ACUTE TOXICITY (oral) - Category 4  
ACUTE TOXICITY (inhalation) - Category 4  
SKIN CORROSION/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 2A  
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3

### GHS label elements

**Hazard pictograms** :



**Signal word** : Danger

**Hazard statements** : Highly flammable liquid and vapor.  
Harmful if swallowed or if inhaled.  
Causes serious eye irritation.  
Causes skin irritation.  
May cause respiratory irritation.

### Precautionary statements

**Prevention** : Wear protective gloves. Wear eye or face protection. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only outdoors or in a well-ventilated area. Avoid breathing vapor. Do not eat, drink or smoke when using this product. Wash hands thoroughly after handling.

**Response** : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell. IF SWALLOWED: Call a POISON CENTER or physician if you feel unwell. Rinse mouth. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. IF ON SKIN: Wash with plenty of soap and water. Take off contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical attention. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical attention.

**Storage** : Store in a well-ventilated place. Keep cool.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Other hazards which do not result in classification** : None known.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Hazardous ingredients**

### Section 3. Composition/information on ingredients

Ingredient name / Chemical name	%	CAS number
4-methylpentan-2-one	40 - 45	108-10-1
pentane-2,4-dione	25 - 30	123-54-6
ethyl 3-ethoxypropionate	20 - 25	763-69-9
dibutyltin dilaurate	0 - 1	77-58-7

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

### Section 4. First aid measures

#### Description of necessary first aid measures

- Eye contact** : 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 10 minutes. Get medical attention.
- Inhalation** : 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. Get medical attention. If necessary, call a poison center or physician. 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.
- Skin contact** : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Ingestion** : 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. Get medical attention. If necessary, call a poison center or 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 irritation.
- Inhalation** : Harmful if inhaled. May cause respiratory irritation.
- Skin contact** : Causes skin irritation.
- Ingestion** : Harmful if swallowed.

##### Over-exposure signs/symptoms

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness

## Section 4. First aid measures

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

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

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

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### **Extinguishing media**

- Suitable extinguishing media** : Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Unsuitable extinguishing media** : Do not use water jet.

- Specific hazards arising from the chemical** : Highly 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. Runoff to sewer may create fire or explosion hazard.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide

- 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.

- 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. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- For emergency responders** : If specialised 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). Do not ingest. Avoid contact with eyes, skin and clothing. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. 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.
- Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

## Section 7. Handling and storage

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in 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
4-methylpentan-2-one	<b>ACGIH TLV (United States, 3/2015).</b> STEL: 75 ppm 15 minutes. TWA: 20 ppm 8 hours.
pentane-2,4-dione	<b>ACGIH TLV (United States, 3/2015).</b> <b>Absorbed through skin.</b> TWA: 25 ppm 8 hours.
dibutyltin dilaurate	<b>ACGIH TLV (United States, 3/2015).</b> <b>Absorbed through skin.</b> STEL: 0.2 mg/m <sup>3</sup> , (as Sn) 15 minutes. TWA: 0.1 mg/m <sup>3</sup> , (as Sn) 8 hours.

**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.

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

### Individual protection measures

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

**Eye/face protection** : Safety 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.

#### Skin protection

## Section 8. Exposure controls/personal protection

<b>Hand protection</b>	: 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.
<b>Body protection</b>	: 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.
<b>Other skin protection</b>	: 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.
<b>Respiratory protection</b>	: Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.

## Section 9. Physical and chemical properties

### Appearance

	<b>Physical state</b>	: Liquid.
	<b>Color</b>	: Not available.
<b>Odor</b>		: TYPICAL.
<b>Odor threshold</b>		: Not available.
<b>pH</b>		: Not available.
<b>Melting/freezing point</b>		: Not available.
<b>Boiling point</b>		: 117°C (242.6°F)
<b>boiling range</b>		: Not available.
<b>Flash point</b>		: Closed cup: 15°C (59°F)
<b>Evaporation rate</b>		: Not available.
<b>Flammability (solid, gas)</b>		: Not available.
<b>Upper/lower flammability or explosive limits</b>		
	<b>Upper:</b>	: Not determined.
	<b>Lower:</b>	: Not determined.
<b>Vapor pressure</b>		: Not available.
<b>Vapor density</b>		: Not available.
<b>Relative density</b>		: 0.882
<b>Density</b>	: 7.36 lbs/gal	0.882 g/cm³
<b>Solubility</b>		: Not available.
<b>Solubility in water</b>		: Not available.
<b>Partition coefficient: n-octanol/water</b>		: Not available.
<b>Auto-ignition temperature</b>		: Not available.

## Section 9. Physical and chemical properties

<b>Decomposition temperature</b>	: Not available.
<b>Viscosity</b>	: Kinematic (room temperature): 0.45 cm <sup>2</sup> /s (45 cSt) Kinematic (40°C (104°F)): 0.06 cm <sup>2</sup> /s (6 cSt)
<b>Weight Volatiles</b>	: 99.87% (w/w)
<b>Volume Volatiles</b>	: 99.89 % (v/v)
<b>Weight Solids</b>	: 0.13 % (w/w)
<b>Volume Solids</b>	: 0.11 % (v/v)
<b>Regulatory VOC</b>	: 7.35 lbs/gal (881 g/l) minus water and exempt solvents

## Section 10. Stability and reactivity

<b>Reactivity</b>	: No specific test data related to reactivity available for this product or its ingredients.
<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: 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.
<b>Incompatible materials</b>	: Reactive or incompatible with the following materials: oxidizing materials
<b>Hazardous decomposition products</b>	: 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				
4-methylpentan-2-one	LD50 Oral	Rat	2080 mg/kg	-
ethyl 3-ethoxypropionate	LD50 Oral	Rat	3200 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
4-methylpentan-2-one	Eyes - Moderate irritant	Rabbit	-	24 hours 100 microliters	-
	Eyes - Severe irritant	Rabbit	-	40 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
pentane-2,4-dione	Eyes - Severe irritant	Rabbit	-	20 milligrams	-
	Skin - Mild irritant	Rabbit	-	488 milligrams	-
	Skin - Mild irritant	Rabbit	-	6 hours 11.2 Milliliters Intermittent	-



## Section 11. Toxicological information

ethyl 3-ethoxypropionate	Skin - Moderate irritant	Rabbit	-	48 hours 11. - 2 Milliliters
	Skin - Moderate irritant	Rabbit	-	Intermittent 6 hours 33.6 - Milliliters
	Skin - Mild irritant	Rabbit	-	Intermittent 24 hours 500 - milligrams

### **Sensitization**

Not available.

### **Mutagenicity**

Not available.

### **Carcinogenicity**

Not available.

### **Reproductive toxicity**

Not available.

### **Teratogenicity**

Not available.

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

Name	Category	Route of exposure	Target organs
4-methylpentan-2-one	Category 3	Not applicable.	Respiratory tract irritation

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

Not available.

### **Aspiration hazard**

Not available.

**Information on the likely routes of exposure** : Not available.

### **Potential acute health effects**

**Eye contact** : Causes serious eye irritation.  
**Inhalation** : Harmful if inhaled. May cause respiratory irritation.  
**Skin contact** : Causes skin irritation.  
**Ingestion** : Harmful if swallowed.

### **Symptoms related to the physical, chemical and toxicological characteristics**

**Eye contact** : Adverse symptoms may include the following:  
 pain or irritation  
 watering  
 redness

## Section 11. Toxicological information

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

### 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

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

#### Potential chronic health effects

Not available.

- General** : No known significant effects or critical hazards.
- 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	1118.8 mg/kg
Inhalation (gases)	10029 ppm
Inhalation (vapors)	24.52 mg/l
Inhalation (dusts and mists)	3.343 mg/l

## Section 12. Ecological information

### Toxicity

## Section 12. Ecological information

Product/ingredient name	Result	Species	Exposure
4-methylpentan-2-one	Acute LC50 505000 to 514000 µg/l Fresh water Chronic NOEC 78 mg/l Fresh water Chronic NOEC 168 mg/l Fresh water	Fish - Pimephales promelas  Daphnia - Daphnia magna Fish - Pimephales promelas - Embryo	96 hours  21 days 33 days
pentane-2,4-dione	Acute EC50 75000 to 78000 µg/l Fresh water Acute LC50 35400 µl/L Fresh water Acute LC50 60100 to 71800 µg/l Fresh water	Crustaceans - Ceriodaphnia reticulata - Larvae Daphnia - Daphnia magna Fish - Lepomis macrochirus	48 hours 48 hours 96 hours

### Persistence and degradability

Not available.

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
4-methylpentan-2-one	1.9	-	low
pentane-2,4-dione	0.68	-	low
ethyl 3-ethoxypropionate	1.47	-	low

### Mobility in soil

**Soil/water partition coefficient (K<sub>oc</sub>)** : 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.

## Section 14. Transport information

**Special precautions for user** : The actual shipping description for this product may vary based several factors including, but not limited to, the volume of material, size of the container, mode of transport and use of exemptions or exceptions found in the applicable regulations. The information provided in Section 14 is one possible shipping description for this product. Consult your shipping specialist or supplier for appropriate assignment of the DOT information.

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

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	UN1992	UN1992	UN1992	UN1992	UN1992
UN proper shipping name	FLAMMABLE LIQUID, TOXIC, N.O.S. (4-methylpentan- 2-one, pentane- 2,4-dione)	FLAMMABLE LIQUID, TOXIC, N.O.S. (4-methylpentan- 2-one, pentane- 2,4-dione)	FLAMMABLE LIQUID, TOXIC, N.O.S. (4-methylpentan- 2-one, pentane- 2,4-dione)	FLAMMABLE LIQUID, TOXIC, N.O.S. (4-methylpentan- 2-one, pentane- 2,4-dione)	FLAMMABLE LIQUID, TOXIC, N.O.S. (4-methylpentan- 2-one, pentane- 2,4-dione)
Transport hazard class(es)	3 (6.1)  	3 (6.1)  	3 (6.1)  	3 (6.1)  	3 (6.1)  
Packing group	II	II	II	II	II
Environmental hazards	No.	No.	No.	No.	No.

## Section 15. Regulatory information

### U.S. Federal regulations

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

### SARA 311/312

**Classification** : Fire hazard  
Immediate (acute) health hazard

### SARA 313

## Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	4-methylpentan-2-one	108-10-1	40 - 45

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.

### California Prop. 65

**WARNING:** This product contains a chemical known to the State of California to cause cancer.

### International lists

#### National inventory

Australia	: All components are listed or exempted.
Canada	: All components are listed or exempted.
China	: All components are listed or exempted.
Europe	: All components are listed or exempted.
Japan	: All components are listed or exempted.
Malaysia	: At least one component is not listed.
New Zealand	: All components are listed or exempted.
Philippines	: All components are listed or exempted.
Republic of Korea	: All components are listed or exempted.
Taiwan	: All components are listed or exempted.

## Section 16. Other information

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

Health	*	2
Flammability		3
Physical hazards		0

Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings are not required on SDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered mark of the National Paint & Coatings Association (NPCA). HMIS® materials may be purchased exclusively from J. J. Keller (800) 327-6868.

The customer is responsible for determining the PPE code for this material.

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



## Section 16. Other information

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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.

### History

**Date of issue/Date of revision** : 12 August 2016

**Version** : 19.02

**MSDS #** : A42880  
0018

**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 73/78 = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)  
UN = United Nations

### Notice to reader

To the best of our knowledge, the information contained herein is accurate. However, neither the above-named supplier, nor any of its subsidiaries, assumes any liability whatsoever for the accuracy or completeness of the information contained herein.

Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.