

# SAFETY DATA SHEET

## FOR INDUSTRIAL USE ONLY

### Hexamine-Free Flow


#### Section 1. Product and company identification

<b>GHS product identifier</b>	:	Hexamine-Free Flow
<b>MSDS Number</b>	:	000000109231
<b>Product type</b>	:	Hexamethylenetetramine
<b>Material uses</b>	:	Additive
<b>Manufacturer/Supplier/Importer</b>	:	Hexion VAD LLC 180 East Broad Street Columbus, Ohio 43215 USA
<b>Contact person</b>	:	service@hexion.com
<b>Telephone</b>	:	For additional health and safety or regulatory information, call 1 888 443 9466.
<b>Emergency telephone number</b>	:	For Emergency Medical Assistance Call Health & Safety Information Services 1-866-303-6949  For Emergency Transportation Information CHEMTREC US Domestic (800) 424-9300 CHEMTREC International (703) 527-3887 CANUTEC CA Domestic (613) 996-6666

#### Section 2. Hazards identification

<b>Classification of the substance or mixture</b>	:	FLAMMABLE SOLIDS - Category 2 COMBUSTIBLE DUSTS - Applicable SKIN SENSITISATION - Category 1
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#### GHS label elements

<b>Hazard pictograms</b>	:	
<b>Signal word</b>	:	Warning
<b>Hazard statements</b>	:	H228 Flammable solid. May form combustible dust concentrations in air. H317 May cause an allergic skin reaction.

#### Precautionary statements

- General** : Not applicable.
- Prevention** : Wear protective gloves.  
Wear protective clothing.  
Wear eye or face protection.  
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
Avoid breathing dust.
- Response** : Wash contaminated clothing before reuse.  
IF ON SKIN:  
Wash with plenty of water.
- Storage** : Not applicable.
- Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.
- Other hazards which do not result in classification** : Unclassified Hazard - Combustible Dust  
Combustible dust when finely divided and suspended in air. Fine dust clouds may form explosive mixtures with air. Product can explode if dust cloud is formed and ignited.
- Minimize airborne dust. Eliminate all fire/ignition sources including static discharges near product/package. Prevent dust accumulation. Refer to Handling Section 7 of the MSDS for more information.
- Handling and/or processing of this material may generate a dust which can cause mechanical irritation of the eyes, skin, nose and throat.

### Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	% by weight	CAS number
Hexamethylenetetramine	90 - 100	100-97-0

Note: Residual formaldehyde gas may be released from this product during processing. The amount and level will depend on local conditions of use. Formaldehyde gas is irritating to the eyes and upper respiratory tract and may aggravate existing respiratory conditions or allergies. OSHA has listed formaldehyde as a potential human carcinogen. See the OSHA formaldehyde standard 29 CFR 1910.1048 for further details. The International Agency for Research on Cancer (IARC) has classified formaldehyde as carcinogenic to humans.

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** : 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 if irritation occurs.
- Inhalation** : Remove victim to fresh air and keep at rest in a position comfortable for breathing. 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 adverse health effects persist or are severe. 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** : 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 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. 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 adverse health effects persist or are severe. 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.

**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 aid personnel** : No action shall be taken involving any personal risk or without suitable training. 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)

<b>Section 5. Fire-fighting measures</b>
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**Extinguishing media**

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

<b>Specific hazards arising from the chemical</b>	:	Combustible solid that burns. Flammable solid. Fine dust clouds may form explosive mixtures with air.
<b>Hazardous thermal decomposition products</b>	:	Decomposition products may include the following materials: carbon dioxide carbon monoxide nitrogen oxides metal oxide/oxides hydrogen cyanide ammonia sulfur oxides halogenated compounds formaldehyde
<b>Special protective actions for fire-fighters</b>	:	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.
<b>Special protective equipment for fire-fighters</b>	:	Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
<b>Remark</b>	:	Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). The ATEX Directive defines combustible powders as less than 500 microns in diameter. When processed with flammable liquids/vapors/mists, ignitable (hybrid) mixtures may be formed with combustible dusts. Ignitable mixtures will increase the rate of explosion pressure rise and the MIE will be lower than the pure dust in air mixture. The Lower Explosive Limit (LEL) of the vapor/dust mixture will be lower than the individual LELs for the vapors/mists or dusts. See NFPA 77 for additional guidance.

## Section 6. Accidental release measures

### Personal precautions, protective equipment and emergency procedures

<b>For non-emergency personnel</b>	:	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. Minimize airborne dust and eliminate all fire/ignition sources. Clean up spill as soon as possible using procedures described below. Avoid breathing dust. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
<b>For emergency responders</b>	:	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".
<b>Environmental precautions</b>	:	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 material for containment and cleaning up**

- Small spill** :
- Move containers from spill area. Do not use air hoses for cleaning. Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Use spark-proof tools and explosion-proof equipment. Vacuums with explosion-proof motors should be used. Dispose of via a licensed waste disposal contractor.
- Large spill** :
- Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Avoid creating dusty conditions and prevent wind dispersal. Do not use air hoses for cleaning. Minimize dry sweeping to avoid generation of dust clouds. Vacuum dust-accumulating surfaces and remove to a chemical disposal area. Use spark-proof tools and explosion-proof equipment. Vacuums with explosion-proof motors should be used. Dispose of via a licensed waste disposal contractor. Note: see section 1 of SDS for emergency contact information and section 13 of SDS for waste disposal.

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

- Protective measures** :
- Put on appropriate personal protective equipment (see section 8 of SDS). 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 ingest. Avoid the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Prevent dust accumulation. 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. Electrical equipment and lighting should be protected to appropriate standards to prevent dust coming into contact with hot surfaces, sparks or other ignition sources. Use only non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Empty containers retain product residue and can be hazardous. Do not reuse container.

**COMBUSTIBLE DUST HANDLING PROCEDURES:**

Combustible dusts at sufficient concentrations can form explosive mixtures with air. High dust concentrations should be avoided. Follow US NFPA Standard 654, "Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing, and Handling of Combustible Particulate Solids," UK HSE Guidance HSG 103, approved Codes of Practice (ACOPS) established for Explosive Atmospheres under the ATEX Directive 1999/92/EC for worker protection and ATEX Directive 94/9/EC that regulates equipment and protection systems used in potentially explosive atmospheres or other national guidance on safe handling of combustible dusts. Train

workers in the recognition and prevention of hazards associated with combustible dust in the plant.

Minimize airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. Establish good housekeeping practices. Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds. Use continuous suction at points of dust generation to capture and minimize the accumulation of dusts. Particular attention should be given to overhead and hidden horizontal surfaces to minimize the probability of a "secondary" explosion. According to NFPA Standard 654, dust layers 1/32 in.(0.8 mm) thick can be sufficient to warrant immediate cleaning of the area.

Control sources of static electricity. This product or the package itself can accumulate static charges, and static discharge can be a source of ignition. Solids handling systems must be designed in accordance with applicable NFPA standards (including 654 and 77) and other national guidance. Do not empty directly into flammable solvents or in the presence of flammable vapors. The operator, the packaging container and all equipment must be grounded with electrical bonding and grounding systems. Plastic bags and plastics cannot be grounded, and antistatic bags do not completely protect against development of static charges.

- 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 of SDS) and food and drink. Eliminate all ignition sources. Separate from oxidising materials. Keep away from heat, hot surfaces, sparks and flame. 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
Hexamethylenetetramine	None.

- Recommended monitoring procedures** :
- If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference

should be made to appropriate monitoring standards. Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

- Appropriate engineering controls** : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. 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. Contaminated work clothing should not be allowed out of the workplace. 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: safety glasses with side-shields.

### **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., For PPE selection see National Fire Protection Association (NFPA) 2113, Standard on Selection, Care, Use and Maintenance of Flame-Resistant Garments for Protection of Industrial Personnel Against Flash Fire.
- 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.

## Section 9. Physical and chemical properties

### Appearance

Physical state	:	Solid
Color	:	Not available
Odor	:	Not available
Odor threshold	:	Not available
pH	:	Not available
Melting point/ Freezing point	:	280 °C (536 °F)
Boiling point	:	280 °C (536 °F)
Flash point	:	250 °C (482 °F)
Burning time	:	Not available
Burning rate	:	Not available
Evaporation rate	:	Not available
Flammability (solid, gas)	:	Not available
Lower and upper explosive (flammable) limits	:	<b>Lower:</b> Not available <b>Upper:</b> Not available
Vapor pressure	:	Not available
Vapor density	:	Not available
Relative density	:	1.33
Solubility	:	Not available
Solubility in water	:	Soluble
Partition coefficient: n-octanol/water	:	Not available
Auto-ignition temperature	:	770 °F (410 °C)
Decomposition temperature	:	Not available
SADT	:	Not available
Viscosity	:	<b>Dynamic:</b> Not applicable.  <b>Kinematic:</b> Not available

### Other information

*Minimum Explosive Concentration (MEC)	:	0.015 - 0.030 kg/m <sup>3</sup>
*Minimum Ignition Energy (MIE)	:	Less than 3 - 5 mJ
*Minimum Ignition Temperature	:	460 - 530 °C



(MIT)

- \*Minimum Ignition Temperature : 320 - 330 °C  
 - Layer  
 \*Kst : 224 - 347 m.b\_/s

*\* These values listed above are only representative values. A resin's characteristics may change depending upon the process and conditions of use at your facility or any changes made to the resin during use, including further grinding or mixing with other products. In order to obtain more specific data for your particular resin as it is used at your facility, we recommend that you conduct your own characterization testing.*

## Section 10. Stability and reactivity

- Reactivity** : Stable under normal conditions.
- 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 the creation of dust when handling and avoid all possible sources of ignition (spark or flame). Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Prevent dust accumulation. See Section 7 Handling.
- Incompatible materials** : Reactive or incompatible with the following materials:  
 oxidising materials  
 Strong Acids  
 strong alkalis,  
 phenol  
 HYDROCHLORIC ACID  
 Strong oxidizer,
- Hazardous decomposition products** : Decomposition products may include the following materials:,  
 formaldehyde, ammonia, hydrogen cyanide

## Section 11. Toxicological information

### Information on toxicological effects

#### Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylenetetramine				
	LD50 Oral	Rat	> 20,000 mg/kg	-
	LD50 Dermal	Rat	> 2,000 mg/kg	-

**Conclusion/Summary** : Not available

#### Irritation/Corrosion

**Conclusion/Summary**  
**Skin** : Not available

eyes : Not available  
 Respiratory : Not available

#### Sensitization

Conclusion/Summary :  
 Skin : Not available  
 Respiratory : Not available

#### Mutagenicity

Conclusion/Summary : Not available

#### Carcinogenicity

Conclusion/Summary : Not available

#### Reproductive toxicity

Conclusion/Summary : Not available

#### Teratogenicity

Conclusion/Summary : Not available

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

Not available

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

Not available

#### Aspiration hazard

Not available

Information on likely routes of exposure : Not available

#### Potential acute health effects

Eye contact : No known significant effects or critical hazards.  
 Inhalation : No known significant effects or critical hazards.  
 Skin contact : May cause an allergic skin reaction.  
 Ingestion : No known significant effects or critical hazards.

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

Eye contact : No specific data.  
 Inhalation : No specific data.  
 Skin contact : Adverse symptoms may include the following:  
 irritation  
 redness  
 Ingestion : No specific data.

#### Delayed and immediate effects as well as 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

**Conclusion/Summary** : 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

Product/ingredient name	Oral	Dermal	Inhalation (gases)	Inhalation (vapors)	Inhalation (dusts and mists)
Free Flow Hexamine - Wright Corporation	N/A	2,500 mg/kg	N/A	N/A	N/A
1,3,5,7-Tetraazatricyclo[3.3.1.1.3,7]decane	N/A	2,500 mg/kg	N/A	N/A	N/A

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
methenamine			
	Acute LC50 49,800,000 µg/l Fresh water	Fish - Fish	96 h
	Acute EC50 36,000,000 µg/l Fresh water	Aquatic invertebrates. Daphnia	48 h

**Conclusion/Summary** : Not available

#### Persistence/degradability

**Conclusion/Summary** : Not available

#### Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
methenamine	-2.18	-	low

#### Mobility in soil

- Soil/water partition coefficient (KOC) : 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. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

### Section 14. Transport information

The data provided in this section is for information only and may not be specific to your package size or mode of transport. You will need to apply the appropriate regulations to properly classify your shipment for transportation.

#### International transport regulations

Regulatory information	UN/NA number	Proper shipping name	Classes/*PG	Reportable Quantity (RQ)
CFR	1328	HEXAMETHYLENETETRAM INE	Class 4.1 III	
TDG	1328	HEXAMETHYLENETETRAM INE	Class 4.1 III	
IMO/IMDG	1328	HEXAMETHYLENETETRAM INE	Class 4.1 III	
IATA (Cargo)	1328	HEXAMETHYLENETETRAM INE	Class 4.1 III	

\*PG : Packing group

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

## Section 15. Regulatory information

### United States

**U.S. Federal regulations** : **United States - TSCA 12(b) - Chemical export notification:** None required.  
**United States - TSCA 5a2 - Final significant new use rules:** Not listed  
**United States - TSCA 5a2 - Proposed significant new use rules:** Not listed  
**United States - TSCA 5(e) - Substances consent order:** Not listed  
**SARA 311/312 Classification - FLAMMABLE SOLIDS, Category 2**  
**SARA 311/312 Classification - COMBUSTIBLE DUSTS**  
**SARA 311/312 Classification - SKIN SENSITISATION, Category 1**  
**SARA 311/312 Classification - Not applicable**

### California Prop. 65:

This product does not require a Safe Harbor warning under California Prop. 65.

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

### International regulations

**International lists** : **Australia inventory (AICS):** All components are listed or exempted.  
**Canada inventory:** All components are listed or exempted.  
**Japan inventory:** All components are listed or exempted.  
**China inventory (IECSC):** All components are listed or exempted.  
**Korea inventory (KECI):** All components are listed or exempted.  
**New Zealand Inventory (NZIoC):** All components are listed or exempted.  
**Philippines inventory (PICCS):** All components are listed or exempted.  
**United States inventory (TSCA 8b):** All components are active or exempted.  
**Taiwan inventory (TCSI):** All components are listed or exempted.

## Section 16. Other information

### **Hazardous Material Information System III (U.S.A.) :**

<b>Health</b>	*	2
<b>Flammability</b>		3
<b>Physical hazards</b>		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<sup>®</sup> ratings are not required on MSDSs under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS<sup>®</sup> ratings are to be used with a fully implemented HMIS<sup>®</sup> program. HMIS<sup>®</sup> is a registered mark of the National Paint & Coatings Association (NPCA). HMIS<sup>®</sup> materials may be purchased exclusively from J. J. Keller (800) 327-6868.

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

**Full text of abbreviated H statements** : Not applicable.

### History

**Date of printing** : 05/12/2021  
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**Prepared by** : Product Safety Stewardship  
**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)  
 RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail  
 UN = United Nations

**References** : Not available

### Notice to reader

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