

## 1. Identification

Product identifier	ParPHorm® L1938		
Other means of identification SDS number	PHC-219		
Product code	19-26-1938-0200		
Recommended use	Sealing compound		
Recommended restrictions	No restrictions on use known.		
Chemical family	Mixture of: Siloxanes; Inorganic substances in powdered form; Water		
Manufacturer			
Company name	Parker Hannifin Corp.		
Address	Chomerics Division 77 Dragon Court Woburn, MA, USA 01888		
Telephone	(781) 935 4580		
Website	www.chomerics.com		
E-Mail	chomailbox@parker.com		
Supplier information	Refer to Manufacturer		
Emergency phone number	INFOTRAC - (800) 535-5053 (Within Continental US); (352) 323-3500 (Outside US)		

## 2. Hazard(s) Identification

This material is classified as ha	azardous under OSHA regulations (29CFR 1910.1200) (Hazcom 2012).	
Physical hazards	This mixture does not meet the classification criteria according to OSHA Hazcom 2012.	
Health hazards	Eye damage/irritation - Category 2A	
Environmental hazards	Not currently regulated by OSHA, refer to Section 12 for additional information.	
OSHA defined hazards	This mixture does not meet the classification criteria according to OSHA Hazcom 2012.	

Label elements

Signal Word	WARNING!
Hazard statement(s)	H319 - Causes serious eye irritation. 70 - 80% of the mixture consists of ingredient(s) of unknown toxicity
Precautionary statement(s)	
Prevention	Wash hands and face thoroughly after handling. Wear eye/face protection.
Response	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 advice/attention.
Storage	None required according to OSHA Hazcom 2012.
Disposal	None required according to OSHA Hazcom 2012.



Hazard(s) not otherwise	No OSHA defined hazard classes.		
Classified (HNOC)	Other hazards which do not result in classification: Toxic fumes, gases or vapors may evolve on burning. When heated above 150°C in air, may release formaldehyde gas. May cause mild respiratory irritation at higher temperatures. Inhalation of fumes may result in metal fume fever, a flu-like illness. May cause gastrointestinal irritation. May cause mild skin irritation on prolonged contact.		
	Environmental precautions: Contains a chemical considered to be persistent. An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. See ECOLOGICAL INFORMATION, Section 12.		
Supplemental Information	Avoid contact with eyes, skin and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles.		

## 3. Composition/information on ingredients

Chemical name	Common name and synonyms	CAS number	Concentration (%)	
Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated	Fluoromethylvinylsiloxane	68951-98-4	70.0 - 80.0	
Iron oxide	Not available.	1332-37-2	1.0 - 5.0	
Decamethylcyclopentasiloxane	Cyclic dimethylsiloxane pentamer	541-02-6	1.0 - 5.0	
Dimethylhydropolysiloxane	Siloxanes and Silicones, di-Me, Me hydrogen	68037-59-2	1.0 - 5.0	
The following ingredient may be	e released from the product only when h	eated above 150°C:		
Formaldehyde	Methanal Methyl Aldehyde Methylene oxide	50-00-0	Not known.	

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

### 4. First-aid measures

Inhalation	If inhaled, move to fresh air. If breathing is difficult, give oxygen by qualified medical personnel only. If breathing has stopped, give artificial respiration. Call a physician.
Skin contact	For skin contact, wash with soap and water while removing contaminated clothing. If irritation or symptoms develop, seek medical attention.
Eye contact	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 advice/attention.
Ingestion	Do NOT induce vomiting. Rinse mouth. Never give anything by mouth to an unconscious person. Call a physician.
Most important symptoms and effects, both acute and delayed	Causes serious eye irritation. May cause irritation, redness and pain. Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath. May cause mild respiratory irritation at higher temperatures. May cause coughing and breathing difficulties. If material is ingested, may cause irritation to mucous membranes. May cause nausea, stomach pain and vomiting. May cause mild skin irritation on prolonged contact. Direct skin contact may cause temporary redness. When heated above 150°C in air, may release formaldehyde gas. Formaldehyde is an eye and throat irritant and acute toxicant. Formaldehyde may cause sensitisation by skin contact. Formaldehyde has shown limited evidence of a carcinogenic effect.
Indication of any immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically.
General Information	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance.



## 5. Fire-fighting measures

Suitable extinguishing media	Use media suitable to the surrounding fire such as water fog or fine spray, alcohol foams, carbon dioxide and dry chemical.
Unsuitable extinguishing media	None known.
Specific hazards arising from the chemical	During a fire, irritating and toxic gases may be generated by thermal decomposition or combustion. When heated above 150°C in air, may release formaldehyde gas. Closed containers may rupture if exposed to excess heat or flame due to a build-up of internal pressure.
Special protective equipment and precautions for fire-fighters	Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. Firefighters should wear proper protective equipment and self-contained breathing apparatus with full face piece operated in positive pressure mode.
Fire-fighting equipment/instructions	Move containers from fire area if safe to do so. Cool closed containers exposed to fire with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike for water control.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Not classified as flammable. However, may burn if exposed to extreme heat and flame.
Hazardous combustion products	
	Carbon oxides; Metal oxides; Silicon oxides; formaldehyde; Hydrogen fluoride; Fluorocarbons; Other unidentified organic compounds.

#### 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures	Keep people away from and upwind of spill/leak. Restrict access to area until completion of clean-up. Wear appropriate protective equipment. Refer to protective measures listed in sections 7 and 8.
Methods and materials for containment and cleaning up	Ventilate the area. Remove all sources of ignition. Prevent further leakage or spillage if safe to do so. Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Pick up and transfer to properly labeled containers. Contact the proper local authorities. For waste disposal, see Section 13 of the SDS.
Environmental precautions	Prevent product from entering drains, sewers, waterways and soil. Avoid release to the environment.
7. Handling and storage	
Precautions for safe handling	Use with adequate ventilation. Wear suitable protective equipment during handling. Wear eye/face protection. Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Keep away from extreme heat and direct flame. Keep away from incompatibles. Keep containers closed when not in use. Wash thoroughly after handling.
Conditions for safe storage, including any incompatibilities	Store in cool/well-ventilated place. Inspect periodically for damage or leaks. Do not store near any incompatible materials (see Section 10).

## 8. Exposure controls/personal protection

### **Occupational exposure limits**

U.S. OSHA Exposure Limits (29 CFR 1910)			
	Туре	Value	
Iron oxide (CAS 1332-37-2)			
	TWA	10 mg/m³ (iron oxide fume)	
Formaldehyde			
(CAS 50-00-0)		2	
	STEL	2 ppm	
	TWA	0.75 ppm	



### US. ACGIH Threshold Limit Values

	Туре	Value	
Iron oxide (CAS 1332-37-2)	TWA	5 mg/m³ (respirable)	
Formaldehyde	TWA	0.3 ppm (Ceiling)	
(CAS 50-00-0)	Ceiling	0.3 ppm	
US. NIOSH: Pocket Guide to	Chemical Hazards		
	Туре	Value	
Iron oxide (CAS 1332-37-2)	TWA	5 mg/m <sup>3</sup> (dust and fume)	
Formaldehyde	TWA	0.016 ppm	
(CAS 50-00-0)	Ceiling	0.1 ppm (15 min)	
Biological limit values			
	No biological expos	ure limits noted for the ingredient(s).	
Appropriate engineering controls	Ensure adequate ventilation, especially in confined areas. Apply technical measures to comply with the occupational exposure limits. Good ventilation (typically 10 air changes per hour) should be sufficient to control airbourne levels. In case of insufficient ventilation wear suitable respiratory equipment.		
Individual protection measures	s, such as personal pro	otective equipment	
Eye / face protection	Wear eye/face protection. Wear as appropriate: Tightly fitting safety goggles; Safety glasses with side shields. A full face shield may also be necessary.		
Skin protection			
Hand protection	For prolonged or repeated contact use protective gloves. The suitability for a specific workplace should be discussed with the producers of the protective gloves. Wear sufficient clothing to prevent skin contact.		
Other	Ensure that eyewash stations and safety showers are close to the workstation location. Other equipment may be required depending on workplace standards.		
Respiratory protection	In case of insufficient ventilation wear suitable respiratory equipment. If airbourne concentrations are above the permissible exposure limit or are not known, use NIOSH-approved respirators. Respirators should be selected based on the form and concentration of contaminants in air, and in accordance with OSHA (29CFR 1910.134). Advice should be sought from respiratory protection specialists.		
Thermal hazards	Wear appropriate th	nermal protective clothing, when necessary.	
General hygiene considerations	Avoid breathing dust, fume or vapors. Avoid contact with skin, eyes and clothing. Wash thoroughly after handling. Remove and wash contaminated clothing before re-use. Handle ir accordance with good industrial hygiene and safety practice.		

### 9. Physical and chemical properties

Appearance		
Physical state	Liquid.	
Form	Viscous liquid	
Color	red	
Odor	N/Av	
Odor threshold	N/Av	
рН	N/Av	
Melting point /freezing point	N/Av	
Initial boiling point and boiling range		
	N/Av	
Flash point	> 93.3°C	
	closed cup	
Evaporation rate	N/Av	
Flammability (solid, gas)	Not applicable	



## Lower flammability/explosive limit $N/A_{V}$

Upper flammability/explosive limit	N/Av	
Vapor pressure	N/Av	
Vapor density	N/Av	
Relative density	1.25	
Solubility(ies)		
Other solubility(ies)	N/Av	
Solubility (water)	Insoluble.	
Partition coefficient (n-octanol/water)	N/Av	
Auto-ignition temperature	N/Av	
Decomposition temperature	N/Av	
Viscosity	N/Av	
Other information		
Explosive properties	Not explosive	
Oxidizing properties	None known.	
Specific gravity	1.25	
VOC	N/Av	
Volatilities %	N/Av	
Other physical/chemical data	No additional information.	
10. Stability and reactivity		
Reactivity	Not normally reactive.	
Chemical stability	Stable under normal conditions. When heated above 150°C in air, may release formaldehyde gas.	
Possibility of hazardous reactions	Hazardous polymerization does not occur. No dangerous reaction known under conditions of normal use.	
Conditions to avoid	Direct sources of heat. Do not use in areas without adequate ventilation. Avoid contact with incompatible materials.	
Incompatible materials	Strong oxidizing agents; Strong acids	
Hazardous decomposition products	None known, refer to hazardous combustion products in Section 5.	
11. Toxicological information		

### Information on likely routes of exposure

Routes of entry inhalation	May cause mild respiratory irritation at higher temperatures. Inhalation of fumes may result in metal fume fever, a flu-like illness.
Routes of entry skin & eye	Causes serious eye irritation. May cause mild skin irritation.
Routes of entry Ingestion	May cause gastrointestinal irritation.
Routes of exposure skin absorption	Not expected to be absorbed through the skin.



Most important symptoms/effects, acute and delayed	<ul> <li>Causes serious eye irritation. May cause irritation, redness and pain.</li> <li>Inhalation of fumes may result in metal fume fever, a flu-like illness. Symptoms of metal fume fever may include fever, fatigue, vomiting, muscle aches and shortness of breath. May cause mild respiratory irritation at higher temperatures. May cause coughing and breathing difficulties.</li> <li>If material is ingested, may cause irritation to mucous membranes. May cause nausea, stomach pain and vomiting.</li> <li>May cause mild skin irritation on prolonged contact. Direct skin contact may cause temporary redness.</li> <li>When heated above 150°C in air, may release formaldehyde gas. Formaldehyde is an eye and throat irritant and acute toxicant. Formaldehyde may cause sensitisation by skin contact. Formaldehyde has shown limited evidence of a carcinogenic effect.</li> </ul>
Information on toxicological effe	cts
Acute toxicity	Not expected to be bazardous by QSHA criteria

cute toxicity

Not expected to be hazardous by OSHA criteria.

There is no available data for the product itself, only for the ingredients. See below for individual ingredient acute toxicity data.

Components	Species	Test Results				
Siloxanes and Silicones, dim	Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated					
Acute						
Dermal						
LD50	Rabbit	N/Av. Unknown toxicity.				
inhalation						
LC50	Rat	N/Av. Unknown toxicity.				
Oral						
LD50	Rat	N/Av. Unknown toxicity.				
Iron oxide						
Acute						
Dermal						
LD50	Rabbit	N/Av				
inhalation						
LC50	Rat	N/Av				
Oral						
LD50	Rat	> 10 000 mg/kg				
Decamethylcyclopentasiloxar	ne					
Acute						
Dermal						
LD50	Rabbit	> 15 360 mg/kg				
inhalation	_					
LC50	Rat	8.67 mg/L (mist)				
Oral	_					
LD50	Rat	> 5000 mg/kg				
Dimethylhydropolysiloxane						
Acute						
Dermal						
LD50	Rabbit	N/Av				
inhalation	_					
LC50	Rat	N/Av				
Oral	_					
LD50	Rat	N/Av				



#### The following ingredient may be released from the product only when heated above 150°C: Formaldehyde

Acute					
Dermal					
LD50	Rabbit	300 mg/kg			
inhalation					
LC50	Rat	287 ppm			
Oral					
LD50	Rat	800 mg/kg (rat) The estimated human lethal dose is: 317 - 475 mg/kg			
Skin Corrosion/Irritation	Not expected to	b be hazardous by OSHA criteria.			
Serious eye damage/Irritation Hazardous by OS Eye damage/irrita		DSHA criteria. Classification: tation - Category 2. Causes serious eye irritation.			
Respiratory or skin sensitization	Not expected t Avoid heating, cause sensitisa	o be a skin or respiratory sensitizer. which will result in the liberation of formaldehyde gas. Formaldehyde may ation by skin contact.			
Germ cell mutagenicity	No data availat mutagenic or g Avoid heating, cause mutation	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic. Avoid heating, which will result in the liberation of formaldehyde gas. Formaldehyde may			
Carcinogenicity	Not expected to ACGIH, IARC, Avoid heating, classified as ca	o have carcinogenic effects. No components are listed as carcinogens by OSHA or NTP. which will result in the liberation of formaldehyde gas. Formaldehyde is arcinogenic.			
IARC Monographs. Ove	erall Evaluation of C	ngredients present on regulatory lists.			
Formaldehyde(CAS 5	0-00-0)	Group 1 (Carcinogenic to Humans)			
OSHA Specifically Reg	ulated Substances	(29 CFR 1910.1001-1050)			
Formaldehvde(CAS 5	0-00-0)	Present			
US National Toxicology	Program(NTP) Rep	port on Carcinogens			
Formaldehyde(CAS 5	0-00-0)	Group 2			
Reproductive toxicity	This product is	not expected to cause reproductive or developmental effects.			
Specific target organ toxicity - single exposure	Not expected to	be hazardous by OSHA criteria.			
Specific target organ toxicity - repeated exposure	Not expected to	Not expected to be hazardous by OSHA criteria.			
Chronic effects	Iron particles in	the eye may leave a "rust ring" or brownish stain on the cornea.			
Aspiration toxicity	Not expected to	Not expected to be hazardous by OSHA criteria.			
Further information	Avoid heating, eye and throat	Avoid heating, which will result in the liberation of formaldehyde gas. Formaldehyde is an eye and throat irritant and acute toxicant.			
12. Ecological informa	tion				
Ecotoxicity	No data is avai	lable on the product itself. Should not be released into the environment.			
	See the following	See the following tables for individual ingredient ecotoxicity data.			



			Toxicity to Fish	
Ingredients	CAS No	LC50 / 96h	NOEC / 21 day	M Factor
Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated	68951-98-4	N/Av	N/Av	None.
Formaldehyde	50-00-0	6.7 mg/L (Striped bass)	≥ 48 mg/L/28-day (Japanese ricefish)	None.
Iron oxide	1332-37-2	> 50 000 mg/L (Zebra fish) (As Diiron trioxide)	N/Av	None.
Decamethylcyclopentasiloxane	541-02-6	> 1000 mg/L (common carp)	N/Av	None.
Dimethylhydropolysiloxane	68037-59-2	N/Av	N/Av	None.

Ingredients	CAS No	Toxicity to Daphnia			
		EC50 / 48h	NOEC / 21 day	M Factor	
Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated	68951-98-4	N/Av	N/Av	None.	
Formaldehyde	50-00-0	5.8 mg/L (Daphnia magna)	N/Av	None.	
Iron oxide	1332-37-2	> 100 mg/L (Daphnia magna) (As Diiron trioxide)	N/Av	None.	
Decamethylcyclopentasiloxane	541-02-6	N/Av	N/Av	None.	
Dimethylhydropolysiloxane	68037-59-2	N/Av	N/Av	None.	

Ingredients	CAS No	Toxicity to Algae			
		EC50 / 96h or 72h	NOEC / 96h or 72h	M Factor	
Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated	68951-98-4	N/Av	N/Av	None.	
Formaldehyde	50-00-0	14.7 mg/L/24hr (Green algae)	N/Av	None.	
Iron oxide	1332-37-2	N/Av	N/Av	None.	
Decamethylcyclopentasiloxane	541-02-6	N/Av	N/Av	None.	
Dimethylhydropolysiloxane	68037-59-2	N/Av	N/Av	None.	

Persistence and degradability

No data is available on the product itself.

Contains the following chemicals which are not readily biodegradable: Iron oxide; Decamethylcyclopentasiloxane. Decamethylcyclopentasiloxane has a half life in sediment of 49 - 588 days (Canadian Environmental Protection Agency). Decamethylcyclopentasiloxane has a half-life in water of 1 - 733 days (Canadian Environmental Protection Agency).

**Bioaccumulation potential** 

The product itself has not been tested. See the following data for ingredient information.



<u>Components</u>	Partition coefficient n-octanol/water (log Kow)	Bioconcentration factor (BCF)			
Formaldehyde (CAS 50-00-0)	0.35	3			
Decamethylcyclopentasiloxane (CAS 541-02-6)	5.2 7060 (steady-state) (F minnow) 13 000 (kinetic) (Fathead				
Mobility in soil	The product itself has not been tested.				
Other adverse effects					
	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.				
13. Disposal consideration	ı				
Disposal instructions	Collect and reclaim or dispose in sealed containers a material and its container must be disposed of as ha contaminate ground water system. Do not contamina chemical or used container. Dispose of in accordance	at licensed waste disposal site. This zardous waste. Do not allow material to ate ponds, waterways or ditches with e with local regulations.			
Local disposal regulations	Dispose in accordance with all applicable federal, sta	ate, territory and local regulations.			
Hazardous waste code	If this product, as supplied, becomes a waste in the a hazardous waste as defined under RCRA, Title 40 waste generator to determine the proper waste ident disposal of unused or waste material, check with loc agencies.	United States, it may meet the criteria of CFR 261. It is the responsibility of the tification and disposal method. For al, state and federal environmental			
US RCRA Hazardous Waste	U List: Reference				

# Components

RCRA Waste number				
Formaldehyde (CAS 50-00-0)	U122			
Waste from residues / unused products	Dispose of in accordance with local regulations. This material and its container must be disposed of in a safe way.			
Contaminated packaging	Empty containers should be taken for local recycling or waste disposal. Since empty containers may retain product residue, follow label warnings even after container is emptied.			

### **14. Transport information**

49CFR/DOT	
Not regulated as dangerou	us goods
ICAO/IATA	
Not regulated as dangerou	us goods
IMDG	
Not regulated as dangerou	us goods
General information	Appropriate advice on safety must accompany the package. Avoid release to the environment. This product does not meet the criteria for an environmentally hazardous mixture, according to the IMDG Code. See Section 12 for more environmental information.
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not applicable.
15 Regulatory information	

#### 15. Regulatory information

### US Federal Information:

Components listed below are present on the following U.S. Federal chemical lists:



Ingredients	CAS # Inventory	TSCA	CERCLA Reportable Quantity(RQ) (40 CFR 117.302):	SARA TITLE III: Sec. 302, Extremely Hazardous Substance, 40 CFR 355:	SARA TITLE III: Sec. 313, 40 CFR 372, Specific Toxic Chemical	
		Inventory			Toxic Chemical	de minimus Concentration
Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated	68951-98-4	Yes	None.	None.	No	N/Ap
Formaldehyde	50-00-0	Yes	100 lbs / 45.4 kg	500 lb TPQ	Yes	0.1%
Iron oxide	1332-37-2	Yes	None.	None.	No	N/Ap
Decamethylcyclopentasilox ane	541-02-6	Yes	None.	None.	No	N/Ap
Dimethylhydropolysiloxane	68037-59-2	Yes	None.	None.	No	N/Ap

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

Hazard categories

Immediate Hazard -	Yes
Delayed Hazard -	NO
Fire Hazard -	NO
Pressure Hazard -	NO
Reactivity Hazard -	NO

#### US state regulations

The following chemicals are specifically listed by individual States:

Ingredients	CAS #	Californ	ia Proposition 65	State "Right to Know" Lists					
		Listed	Type of Toxicity	CA	MA	MN	NJ	PA	RI
Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated	68951-98-4	No	N/Ap	No	No	No	No	No	No
Formaldehyde	50-00-0	Yes	Cancer (gas)	Yes	Yes	Yes	Yes	Yes	Yes
Iron oxide	1332-37-2	No	N/Ap	No	No	No	No	No	No
Decamethylcyclopentasiloxa ne	541-02-6	No	N/Ap	No	No	No	No	No	No
Dimethylhydropolysiloxane	68037-59-2	No	N/Ap	No	No	No	No	No	No

#### **Canadian Information:**

Canadian Environmental Protection Act (CEPA) information: All ingredients listed appear on the Domestic Substances List (DSL).

#### International Inventories

Components listed below are present on the following International Inventory lists:



Ingredients	CAS #	European EINECs	Australia AICS	Philippines PICCS	Japan ENCS	Korea KECI/KECL	China IECSC	NewZealand IOC
Siloxanes and Silicones, dimethyl, methyl 3,3,3-trifluoropropyl, vinyl group-terminated	68951-98-4	Polymer	Present	Present	(7)-503	97-3-313	Present	May be used as a single component chemical under an appropriate group standard
Formaldehyde	50-00-0	200-001-8	Present	Present	(2)-482	KE-17074	Present	HSR001584, HSR001162, HSR001518, HSR001583 (dilution)
Iron oxide	1332-37-2	215-570-8	Present	Present	(1)-357	KE-21111	Present	May be used as a single component chemical under an appropriate group standard
Decamethylcyclopentasilo xane	541-02-6	208-764-9	Present	Present	(7)-475	KE-09395	Present	HSR003719
Dimethylhydropolysiloxane	68037-59-2	N/Av	Present	Present	(7)-477; (7)-477	KE-31133	Present	May be used as a single component chemical under an appropriate group standard

## 16. Other information, including date of preparation or last revision

Issue date	11/23/2015					
Version #	1					
Legend	ACGIH: American Conference of Governmental Industrial Hygienists AICS: Australian Inventory of Chemical Substances CA: California					
	CAS: Chemical Abstract Services					
	CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act of 1980					
	CFR: Code of Federal Regulations					
	DOT: Department of Transportation					
	EC50: Effective Concentration 50%.					
	EINECS: European Inventory of Existing Commercial chemical Substances					
	ENCS: Existing and New Chemical Substances					
	EPA: Environmental Protection Agency					
	HSDB: Hazardous Substances Data Bank					
	IARC: International Agency for Research on Cancer					
	IATA: International Air Transport Association					
	IBC: Intermediate Bulk Container					
	ICAO: International Civil Aviation Organisation					
	IECSC: Inventory of Existing Chemical Substances					
	IMDG: International Maritime Dangerous Goods					
	IOC: Inventory of Chemicals					
	KECI: Koroon Evicting Chemicals Inventory					
	KECL: Korean Existing Chemicals Inventory					
	I.C. Lethal Concentration					
	LD: Lethal Dose					
	MA: Massachusetts					
	MN: Minnesota					
	N/Ap: Not Applicable					
	N/Av: Not Available					



NIOSH: National Institute of Occupational Safety and Health NJ: New Jersey NOEC: No observable effect concentration NTP: National Toxicology Program OECD: Organisation for Economic Co-operation and Development OSHA: Occupational Safety and Health Administration PA: Pennsylvania PEL: Permissible exposure limit PICCS: Philippine Inventory of Chemicals and Chemical Substances RCRA: Resource Conservation and Recovery Act RI: Rhode Island RTECS: Registry of Toxic Effects of Chemical Substances SARA: Superfund Amendments and Reauthorization Act SCBA: Self-Contained Breathing Apparatus SDS: Safety Data Sheet STEL: Short Term Exposure Limit TLV: Threshold Limit Values TSCA: Toxic Substance Control Act TWA: Time Weighted Average

#### Other special considerations for handling

: Provide adequate information, instruction and training for operators.

Disclaimer

Prepared by: ICC The Compliance Center Inc. http://www.thecompliancecenter.com

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Bibliography	1. ACGIH, Threshold Limit Values for Chemical Substances and Physical Agents & Piological Exposure Indiana for 2015
	Biological Exposure indices for 2015.
	2. International Agency for Research on Cancer Monographs, searched 2015.
	3. Canadian Centre for Occupational Health and Safety, CCInfoWeb databases, 2015
	(Chempendium, HSDB and RTECs).
	4. Material Safety Data Sheets from manufacturer.

- 5. US EPA Title III List of Lists March 2015 version.
- 6. California Proposition 65 List November 20, 2015 version.
- 7. OECD The Global Portal to Information on Chemical Substances eChemPortal, 2015.