

# SAFETY DATA SHEET

Clarion® Food Machinery HT EP Grease, No.1



## Section 1. Identification

**GHS product identifier** : Clarion® Food Machinery HT EP Grease, No.1  
**Synonyms** : Lubricating grease;  
CITGO® Material Code: 655701009  
**Code** : 655701009  
**MSDS #** : 655701009

**Supplier's details** : CITGO Petroleum Corporation  
P.O. Box 4689  
Houston, TX 77210  
sdsvend@citgo.com

**Emergency telephone number (with hours of operation)** : Technical Contact: (800) 248-4684  
Medical Emergency: (832) 486-4700  
CHEMTREC Emergency: (800) 424-9300  
(United States Only)

## Section 2. Hazards identification

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

**Classification of the substance or mixture** : SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A  
AQUATIC HAZARD (ACUTE) - Category 2  
AQUATIC HAZARD (LONG-TERM) - Category 2

### GHS label elements

#### Hazard pictograms



**Signal word** : Warning

**Hazard statements** : Causes serious eye irritation.  
Causes skin irritation.  
Toxic to aquatic life with long lasting effects.  
Injection of pressurized hydrocarbons can cause severe permanent tissue damage.  
Initial symptoms may be minor.

### Precautionary statements

**General** : Avoid contact with eyes, skin and clothing. Thoroughly wash exposed areas and clothing with soap and water. IF IN EYES: Rinse cautiously with water for several minutes. IF SWALLOWED: Do not induce vomiting. If you feel unwell, seek medical attention and show the label when possible. Keep out of reach of children.

**Prevention** : Wear protective gloves. Wear eye or face protection. Avoid release to the environment. Wash hands thoroughly after handling.

**Response** : Collect spillage. 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 dry place and/or in closed container. Store in accordance with all local, regional, national and international regulations.

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

## Section 2. Hazards identification

**Hazards not otherwise classified** : Injection of petroleum hydrocarbons requires immediate medical attention.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture  
**Other means of identification** : Lubricating grease;  
 CITGO® Material Code: 655701009

### CAS number/other identifiers

**CAS number** : Not applicable.

Ingredient name	%	CAS number
White mineral oil (petroleum)	≥50 - ≤75	8042-47-5
Carbonic acid calcium salt	≥10 - ≤25	471-34-1
Aluminum, benzoate hydrogenated tallow fatty acid iso-Pr alc. complexes	≤10	68647-58-5
zinc oxide	≤3	1314-13-2

\* = Various      \*\* = Mixture      \*\*\* = Proprietary

Any concentration shown as a range is to protect confidentiality or is due to process 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.
- 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.
- 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. 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.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

- Eye contact** : Causes serious eye irritation.
- Inhalation** : No known significant effects or critical hazards.
- Skin contact** : Causes skin irritation. Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.
- Ingestion** : No known significant effects or critical hazards.

#### Over-exposure signs/symptoms

## Section 4. First aid measures

- Eye contact** : Adverse symptoms may include the following:  
pain or irritation  
watering  
redness
- Inhalation** : No specific data.
- 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** : In the event of injection in underlying tissue, immediate treatment should include extensive incision, debridement and saline irrigation. Inadequate treatment can result in ischemia and gangrene. Early symptoms may be minimal.
- Specific treatments** : Treat symptomatically and supportively.
- Protection of first-aiders** : 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.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable extinguishing media** : Use an extinguishing agent suitable for the surrounding fire.
- Unsuitable extinguishing media** : None known.

**Specific hazards arising from the chemical** : This material is toxic to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
phosphorus oxides  
metal oxide/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.

**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. 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".

## Section 6. Accidental release measures

**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). Water polluting material. May be harmful to the environment if released in large quantities. Collect spillage.

### Methods and materials for containment and cleaning up

- Small spill** : Move containers from spill area. Avoid dust generation. Using a vacuum with HEPA filter will reduce dust dispersal. Place spilled material in a designated, labeled waste container. 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 dust generation. Do not dry sweep. Vacuum dust with equipment fitted with a HEPA filter and place in a closed, labeled waste container. Dispose of via a licensed waste disposal contractor. 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 release to the environment. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. 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.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. 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. 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. See Section 10 for incompatible materials before handling or use.

Bulk Storage Conditions: Do not apply heat or flame to stockpiled material. Rotate stock to reduce the potential for hot spots. Do not store with oxidizers. Minimize dust creation by keeping material moist and/or covered.

## Section 8. Exposure controls/personal protection

### Control parameters

#### Occupational exposure limits

Ingredient name	Exposure limits
White mineral oil (petroleum)	<b>ACGIH TLV (United States, 3/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction
calcium carbonate	<b>NIOSH REL (United States, 10/2013).</b> TWA: 5 mg/m <sup>3</sup> 10 hours. Form: Mist STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Mist
Aluminum, benzoate hydrogenated tallow fatty acid iso-Pr alc. complexes	<b>OSHA PEL (United States, 6/2016).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2013).</b> TWA: 5 mg/m <sup>3</sup> 10 hours. Form: Respirable fraction TWA: 10 mg/m <sup>3</sup> 10 hours. Form: Total
	<b>ACGIH TLV (United States).</b> TWA: 10 mg/m <sup>3</sup> 8 hours. <b>NIOSH REL (United States, 10/2013).</b>

## Section 8. Exposure controls/personal protection

zinc oxide

TWA: 2 mg/m<sup>3</sup>, (as Al) 10 hours.**NIOSH REL (United States, 10/2013).**CEIL: 15 mg/m<sup>3</sup> Form: DustTWA: 5 mg/m<sup>3</sup> 10 hours. Form: Dust and fumesSTEL: 10 mg/m<sup>3</sup> 15 minutes. Form: Fume**OSHA PEL (United States, 6/2016).**TWA: 5 mg/m<sup>3</sup> 8 hours. Form: FumeTWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable fractionTWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust**ACGIH TLV (United States).**TWA: 2 mg/m<sup>3</sup> 8 hours. Form: RespirableSTEL: 10 mg/m<sup>3</sup> 15 minutes. Form:

Respirable

**ACGIH TLV (United States, 3/2016).**TWA: 2 mg/m<sup>3</sup> 8 hours. Form: Respirable fractionSTEL: 10 mg/m<sup>3</sup> 15 minutes. Form:

Respirable fraction

**OSHA PEL (United States). Notes:****Respirable**TWA: 5 mg/m<sup>3</sup> 8 hours. Form: Respirable dust**OSHA PEL (United States). Notes: Total**TWA: 15 mg/m<sup>3</sup> 8 hours. Form: Total dust**Appropriate engineering controls**

: Good general ventilation should be sufficient to control worker exposure to airborne contaminants.

**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, vapor controls, 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 glasses equipped with side shields are recommended as minimum protection in industrial settings. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles. 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 inhalation hazards exist, a full-face respirator may be required instead.

**Skin protection****Hand protection**

: Chemical-resistant 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.

**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.

## Section 8. Exposure controls/personal protection

- 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** : Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, particulate filter 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

- Physical state** : Solid. [Smooth texture]
- Color** : Off-white.
- Odor** : Mild petroleum odor
- pH** : Not available.
- Boiling point** : Not available.
- Flash point** : Open cup: >150°C (>302°F) [Estimated]
- Evaporation rate** : <1 (n-butyl acetate. = 1)
- Lower and upper explosive (flammable) limits** : Lower: 1%  
Upper: 7%
- Vapor pressure** : <0.0013 kPa (<0.01 mm Hg) [room temperature]
- Vapor density** : >10 [Air = 1]
- Relative density** : 1
- Density lbs/gal** : 8.2 lbs/gal
- Density gm/cm<sup>3</sup>** : Not available.
- Gravity, °API** : Estimated 10 @ 60 F
- Solubility** : Insoluble in the following materials: cold water.
- Flow time (ISO 2431)** : Not available.
- NLGI Grade** : 1

## Section 10. Stability and reactivity

- Reactivity** : Not expected to be Explosive, Self-Reactive, Self-Heating, or an Organic Peroxide under US GHS Definition(s).
- 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** : No specific data.
- Incompatible materials** : No specific data.
- 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
White mineral oil (petroleum)	LD50 Dermal	Rabbit	>2000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Carbonic acid calcium salt	LD50 Oral	Rat	6450 mg/kg	-

**Conclusion/Summary** : **White mineral oil (petroleum)**: Low-viscosity and High-viscosity White Mineral Oils: ^[25,45,50,70]  
 DRAIZE EYE, Acute: Non-irritating [Rabbit].  
 DRAIZE DERMAL, Acute: Non-irritating [Rabbit].  
 BUEHLER, Acute: Non-sensitizing [Guinea Pig].  
 28-Day DERMAL, Sub-Chronic: Non-irritating [Rabbit].  
 104-Week DERMAL, Chronic: No skin tumors at site of application [Mouse].  
 MUTAGENICITY:  
 Modified Ames Assay: Negative [Salmonella typhimurium].  
 in-vitro Lymphoma Assay: Negative or no toxicity [Mouse].

Lifetime mouse skin painting studies indicated that white mineral oils are not mutagenic or carcinogenic. Mineral oil mists derived from highly refined oils are reported to have low acute and sub-acute toxicities in animals. Effects from single and short-term repeated exposures to high concentrations of mineral oil mists well above applicable workplace exposure levels include lung inflammatory reaction, lipoid granuloma formation and lipoid pneumonia. In acute and sub-acute studies involving exposures to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

#### Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Carbonic acid calcium salt	Skin - Moderate irritant	Rabbit	-	24 hours 500 milligrams	-
zinc oxide	Eyes - Mild irritant	Rabbit	-	-	-
	Respiratory - Irritant	Rabbit	-	-	-
	Eyes - Mild irritant	Rabbit	-	24 hours 500 milligrams	-
	Skin - Mild irritant	Rabbit	-	24 hours 500 milligrams	-

**Skin** : No additional information.

**Eyes** : No additional information.

**Respiratory** : No additional information.

#### Sensitization

Not available.

**Skin** : No additional information.

**Respiratory** : No additional information.

#### Mutagenicity

Not available.

**Conclusion/Summary** : No additional information.

#### Carcinogenicity

Not available.

## Section 11. Toxicological information

**Conclusion/Summary** : This grease product contains crystalline silica at concentrations above 0.1%. IARC concludes that crystalline silica in the form of quartz or cristobalite dust is carcinogenic to humans (Group 1). In addition, in the 14th Report on Carcinogens, NTP includes Silica, Crystalline (Respirable Size) on its list of substances known to be human carcinogens. Inhalation exposures to respirable-sized silica dust from a grease matrix are unlikely.

### Reproductive toxicity

Not available.

**Conclusion/Summary** : No additional information.

### Teratogenicity

Not available.

**Conclusion/Summary** : No additional information.

### Specific target organ toxicity (single exposure)

Not available.

### Specific target organ toxicity (repeated exposure)

Not available.

### Aspiration hazard

Not available.

**Information on the likely routes of exposure** : Routes of entry anticipated: Dermal.

### Potential acute health effects

**Eye contact** : Causes serious eye irritation.

**Inhalation** : No known significant effects or critical hazards.

**Skin contact** : Causes skin irritation. Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.

**Ingestion** : No known significant effects or critical hazards.

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

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

**Inhalation** : No specific data.

**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.



## Section 11. Toxicological information

<b>General</b>	: No known significant effects or critical hazards.
<b>Carcinogenicity</b>	: No known significant effects or critical hazards.
<b>Mutagenicity</b>	: No known significant effects or critical hazards.
<b>Teratogenicity</b>	: No known significant effects or critical hazards.
<b>Developmental effects</b>	: No known significant effects or critical hazards.
<b>Fertility effects</b>	: No known significant effects or critical hazards.

## Section 12. Ecological information

### Toxicity

Product/ingredient name	Result	Species	Exposure
White mineral oil (petroleum)	LC50 >2000 mg/l	Fish	96 hours
Carbonic acid calcium salt	Acute LC50 >56000 ppm Fresh water Chronic NOEC 61 mg/g Fresh water	Fish - Gambusia affinis - Adult Fish - Oncorhynchus mykiss - Juvenile (Fledgling, Hatchling, Weanling)	96 hours 28 days
zinc oxide	Acute IC50 1.85 mg/l Marine water Acute IC50 46 µg/l Fresh water	Algae - Skeletonema costatum Algae - Pseudokirchneriella subcapitata - Exponential growth phase	96 hours 72 hours
	Acute LC50 98 µg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 1.1 ppm Fresh water	Fish - Oncorhynchus mykiss	96 hours

**Conclusion/Summary** : Not available.

### Persistence and degradability

**Conclusion/Summary** : Not available.

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
White mineral oil (petroleum)	-	-	Not readily

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
White mineral oil (petroleum)	>6	-	high
zinc oxide	-	60960	high

### 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

## Section 13. Disposal considerations

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

	DOT Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-
Transport hazard class(es)	-	-	-
Packing group	-	-	-
Environmental hazards	No.	No.	No.

**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.

**Transport in bulk according to Annex II of MARPOL and the IBC Code** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **United States inventory (TSCA 8b):** All components are listed or exempted.  
**Clean Water Act (CWA) 307:** zinc oxide

This material is classified as an oil under Section 311 of the Clean Water Act (CWA) and the Oil Pollution Act of 1990 (OPA). Discharges or spills which produce a visible sheen on waters of the United States, their adjoining shorelines, or into conduits leading to surface waters must be reported to the EPA's National Response Center at (800) 424-8802.

### SARA 302/304

#### Composition/information on ingredients

**SARA 304 RQ** : Not applicable.

### SARA 311/312

**Classification** : SKIN IRRITATION - Category 2  
EYE IRRITATION - Category 2A

#### Composition/information on ingredients

Name	%	Classification
calcium carbonate	≥10 - ≤25	SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A
zinc oxide	<2.5	EYE IRRITATION - Category 2A

### SARA 313

## Section 15. Regulatory information

	Product name	CAS number	%
Form R - Reporting requirements	zinc oxide	1314-13-2	<2
Supplier notification	zinc oxide	1314-13-2	<2

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: ZINC OXIDE FUME  
**New York** : None of the components are listed.  
**New Jersey** : The following components are listed: ZINC OXIDE  
**Pennsylvania** : The following components are listed: ZINC OXIDE; ZINC OXIDE FUME

### International regulations

- WHMIS (Canada)** : Not controlled under WHMIS (Canada).

### Inventory list

- United States** : All components are listed or exempted.  
**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** : **Japan inventory (ENCS)**: Not determined.  
**Japan inventory (ISHL)**: Not determined.  
**Malaysia** : Not determined.  
**New Zealand** : Not determined.  
**Philippines** : All components are listed or exempted.  
**Republic of Korea** : All components are listed or exempted.  
**Taiwan** : Not determined.  
**Thailand** : Not determined.  
**Turkey** : Not determined.  
**Viet Nam** : 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.

### Procedure used to derive the classification

**Section 16. Other information**

<b>Classification</b>	<b>Justification</b>
SKIN IRRITATION - Category 2 EYE IRRITATION - Category 2A AQUATIC HAZARD (ACUTE) - Category 2 AQUATIC HAZARD (LONG-TERM) - Category 2	Calculation method Calculation method Calculation method Calculation method

**History**

Date of printing : 4/26/2018

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Version : 2

**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)  
 UN = United Nations

**References** : Not available.

▣ Indicates information that has changed from previously issued version.

**Notice to reader**

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