# **SAFETY DATA SHEET**



GHS product identifier	CITGO HyDurance™ AW Fluid 32
Synonyms	Hydraulic Fluid
Material uses	Lubricating oil
Code	633607001

Relevant identified uses of the substance or mixture and uses advised against Not applicable.

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	: AQUATIC HAZARD (LONG-TERM) - Category 4

GHS label elements	
Signal word	No signal word.
Hazard statements	May cause long lasting harmful effects to aquatic life.
Precautionary statements	
General	Keep out of reach of children.
Prevention	Avoid release to the environment. Do not get in eyes, on skin, or on clothing.
Response	Wash with plenty of soap and water or use a recognized skin cleanser.
Storage	Store in accordance with all local, regional, national and international regulations. Store in a dry place and a closed container. Empty containers may contain material residues which can ignite with explosive force. Misuse of empty containers can be dangerous if used to store toxic, flammable, or reactive materials. Cutting or welding of empty containers can cause fire, explosion, or release of toxic fumes from residues. Do not pressurize or expose empty containers to open flame, sparks, or heat. Keep container closed and drum bungs in place. All label warnings and precautions must be observed. Return empty drums to a qualified reconditioner. Consult appropriate federal, state and local authorities before reusing, reconditioning, reclaiming, recycling, or disposing of empty containers and/or waste residues of this material.
Disposal	Dispose of contents and container in accordance with all local, regional, national and international regulations.
Hazards not otherwise classified	Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor. Injection of petroleum hydrocarbons requires immediate medical attention.



# Section 3. Composition/information on ingredients

#### Substance/mixture Other means of identification

: Mixture

: Hydraulic Fluid

### **CAS number/other identifiers**

CAS number

: Not applicable.

Ingredient name	%	CAS number
Distillates (petroleum), hydrotreated heavy paraffinic Distillates (petroleum), solvent-refined heavy paraffinic		64742-54-7 64741-88-4

\* = 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 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	<ul> <li>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.</li> </ul>		
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	<ul> <li>Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Get medical attention if symptoms occur. Wash clothing before reuse. Clean shoes thoroughly before reuse.</li> </ul>		
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	<u>n effects</u>
Eye contact	: No known significant effects or critical hazards.
Inhalation	: No known significant effects or critical hazards.
Skin contact	<ul> <li>Injection of pressurized hydrocarbons can cause severe permanent tissue damage. Initial symptoms may be minor.</li> </ul>
Ingestion	: No known significant effects or critical hazards.
Over-exposure signs	/symptoms
Eye contact	: No specific data.
Inhalation	: No specific data.
Skin contact	: No specific data.
Induction	No specific data

Ingestion : No specific data.

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

Date of issue/Date of revision	: 2/8/2023	Date of previous issue	: 9/23/2022	Version :11	2/12
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# Section 4. First aid measures

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	: In a fire or if heated, a pressure increase will occur and the container may burst. This material may cause long lasting harmful effects to aquatic life. 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 sulfur oxides phosphorus oxides metal oxide/oxides		
Special protective actions for fire-fighters	<ul> <li>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.</li> </ul>		
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, protect	iv	e 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. 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 specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".	
Environmental precautions	:	Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.	
Methods and materials for containment and cleaning up			

#### Small spill : Stop leak if without risk. Move containers from spill area. 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.

# Section 6. Accidental release measures

# 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. 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: Maintain all storage tanks in accordance with applicable regulations. Use necessary controls to monitor tank inventories. Inspect all storage tanks on a periodic basis. Test tanks and associated piping for tightness. Maintain the automatic leak detection devices to assure proper working condition.

# Section 8. Exposure controls/personal protection

### Control parameters

### **Occupational exposure limits**

Ingredient name	Exposure limits
Distillates (petroleum), hydrotreated heavy paraffinic	ACGIH TLV (United States, 1/2021). TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable fraction OSHA PEL (United States, 5/2018). TWA: 5 mg/m <sup>3</sup> 8 hours. NIOSH REL (United States, 10/2020).
Distillates (petroleum), solvent-refined heavy paraffinic	TWA: 5 mg/m <sup>3</sup> 10 hours. Form: Mist STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Mist <b>ACGIH TLV (United States, 1/2021).</b> TWA: 5 mg/m <sup>3</sup> 8 hours. Form: Inhalable
	fraction OSHA PEL (United States, 5/2018). TWA: 5 mg/m <sup>3</sup> 8 hours. NIOSH REL (United States, 10/2020).
	TWA: 5 mg/m <sup>3</sup> 10 hours. Form: Mist STEL: 10 mg/m <sup>3</sup> 15 minutes. Form: Mist

Appropriate engineering controls

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

# Section 8. Exposure controls/personal protection

Environmental exposure controls	: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, vapor controls, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.		
Individual protection measure	es de la constante de la const		
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	: Avoid skin contact with liquid. 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. Leather gloves are not protective for liquid contact.		
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.		
Other skin protection	: Avoid skin contact with liquid. 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. Leather boots are not protective for liquid contact.		
Respiratory protection	: Avoid inhalation of gases, vapors, mists or dusts. Use a properly fitted, air-purifying or supplied-air 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

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

<u>Appearance</u>	
Physical state	: Liquid.
Color	: Light amber [Light]
Odor	: Mild petroleum odor [Slight]
рН	: Not applicable.
Boiling point, initial boiling point, and boiling range	: Not available.
Flash point	: Open cup: 214°C (417.2°F) [Cleveland]
Lower and upper explosive (flammable) limits	: Not available.
Vapor pressure	:

	Vapo	Vapor Pressure at 20°C		Vapor pressure at 50°C		re at 50°C
Ingredient name	mm Hg	kPa	Method	mm Hg	kPa	Method
benzene	75.01	10				
ethyl acrylate	30	4				
toluene	23.17	3.1				
ethylbenzene	9.3	1.2				
xylene	6.7	0.89				
cumene	3.72	0.5				
mesitylene	2.4	0.32				
1,2,4-trimethylbenzene	2.25	0.3				
1,2,3-trimethylbenzene	1.35	0.18				
Naphtha (petroleum), hydrotreated heavy	0.75 to 2.25	0.1 to 0.3				
2-ethylhexan-1-ol	<0.75	<0.1	DIN EN 13016-2			
2-ethylhexyl acrylate	0.18	0.024				
Distillates (petroleum), hydrotreated heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-refined heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-dewaxed light paraffinic	<0.08	<0.011	ASTM D 5191			
Distillates (petroleum), solvent-dewaxed heavy paraffinic	<0.08	<0.011	ASTM D 5191			
Mineral Oil	<0.08	<0.011				
2,6-di-tert-butylphenol	0.01	0.0013	OECD 104			
triphenyl phosphite	0	0	EU A.4			

Relative vapor density
Relative density
Density lbs/gal
Density gm/cm <sup>3</sup>
Gravity, °API
Auto-ignition temperature
Viscosity

### Viscosity SUS Flow time (ISO 2431) Particle characteristics Median particle size

- : Not available.
- : Not available.
- : 7.14 lbs/gal
- : 0.86 g/cm<sup>3</sup>
- : 33.6
- : Not available.
- : Dynamic (room temperature): Not applicable. Kinematic (room temperature): Not applicable. Kinematic (40°C (104°F)): 32 mm²/s (32 cSt)
- : 155 SUS @100 F
- : Not available.
- : Not applicable.

# 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

<u>riouto toxiony</u>				
Product/ingredient name	Result	Species	Dose	Exposure
Distillates (petroleum), hydrotreated heavy paraffinic	LD50 Dermal	Rat	>5000 mg/kg	-
	LD50 Oral	Rat	>5000 mg/kg	-
Distillates (petroleum), solvent-refined heavy paraffinic	LD50 Dermal	Rabbit	2000 mg/kg	-
•	LD50 Oral	Rat	5000 mg/kg	-

Conclusion/Summary
 Distillates (petroleum), hydrotreated heavy paraffinic: 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 exposure to lower concentrations of mineral oil mists at or near current work place exposure levels produced no significant toxicological effects. Distillates (petroleum), solvent-refined heavy paraffinic: 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 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 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.

### Irritation/Corrosion

Not available.

Skin Eyes Respiratory <u>Sensitization</u>	<ul><li>No additional information.</li><li>No additional information.</li><li>No additional information.</li></ul>
Not available.	
Skin	: No additional information.
Respiratory	: No additional information.
Mutagenicity	
Not available.	
Conclusion/Summary	: No additional information.

Date of issue/Date of revision

: 2/8/2023

Date of previous issue

: 9/23/2022

# Section 11. Toxicological information

### **Carcinogenicity**

Not available.

### **Conclusion/Summary**

: Distillates (petroleum), solvent-refined heavy paraffinic: In long term studies (up to two years) no carcinogenic effects have been reported in any animal species tested.

**Classification** 

olassification			
Product/ingredient name	OSHA	IARC	NTP
Distillates (petroleum), solvent-refined heavy paraffinic	-	4	-
Reproductive toxicity			
Not available.			
Conclusion/Summary Teratogenicity Not available.	: No addi	tional inforn	nation.
<b>Conclusion/Summary</b>	: No addi	tional inforn	nation.
Specific target organ toxicit Not available.	<u>ty (single e</u> )	(posure)	
Specific target organ toxicit Not available.	y (repeated	<u>exposure</u>	)
Aspiration hazard Not available.			
Information on the likely routes of exposure	: Not ava	ilable.	
Potential acute health effects	5		
Eye contact	: No know	vn significa	nt effects or critical hazards.
Inhalation	: No know	vn significa	nt effects or critical hazards.
Skin contact			ized hydrocarbons can cause severe permanent tissue damage. ay be minor.
Ingestion	: No know	vn significa	nt effects or critical hazards.
Symptoms related to the phy	sical, chem	nical and to	oxicological characteristics
Eye contact	: No spec	ific data.	
Inhalation	: No spec	ific data.	
Skin contact	: No spec		
Ingestion	: No spec	ific data.	
Delayed and immediate effec	ts and also	chronic ef	ffects from short and long term exposure
Short term exposure			
Potential immediate effects	: Not ava	lable.	
Potential delayed effects	: Not ava	ilable.	
Long term exposure			
Potential immediate effects	: Not ava	ilable.	
Potential delayed effects	: Not ava	ilable.	
Potential chronic health effe	<u>ects</u>		

# Section 11. Toxicological information

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.
<b>Developmental effects</b>	: 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 (mg/ kg)			Inhalation (vapors) (mg/l)	Inhalation (dusts and mists) (mg/ I)
CITGO HyDurance™ AW Fluid 32	29624.3	N/A	N/A	N/A	N/A
Distillates (petroleum), solvent-refined heavy paraffinic	5000	N/A	N/A	N/A	N/A

# Section 12. Ecological information

### **Toxicity**

paraffinic

Not available.

**Conclusion/Summary** : Not available.

### Persistence and degradability

Conclusion/Summary: Not available.Product/ingredient nameAquatic half-lifePhotolysisDistillates (petroleum),--

### **Bioaccumulative potential**

solvent-refined heavy

Product/ingredient name	LogPow	BCF	Potential
Distillates (petroleum), solvent-refined heavy paraffinic	3.9 to 6	-	high

**Biodegradability** 

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Inherent

### <u>Mobility in soil</u>

Soil/water partition : Not available. coefficient (Koc)

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
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### Section 13. Disposal considerations

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

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

**Oil:** The product(s) represented by this SDS is (are) regulated as "oil" under 49 CFR Part 130. Shipments by rail or highway in packaging having a capacity of 3500 gallons or more or in a quantity greater 42,000 gallons are subject to these requirements. In addition, mixtures containing 10% or more of this product may be subject to these requirements.

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 : Not available. to IMO instruments

# Section 15. Regulatory information

U.S. Federal regulations	<b>United States inventory (TSCA 8b)</b> : All components are listed or exempted. <b>Clean Water Act (CWA) 307</b> : Phosphorodithioic acid, O,O-di-C1-14-alkyl esters, zinc salts; Zinc alkyldithiophosphate ; toluene; ethylbenzene; benzene	
	Clean Water Act (CWA) 311: toluene; xylene; ethylbenzene; benzene	
	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.	
<u>SARA 311/312</u>		
Classification	: HNOC - Injection Hazards	
Composition/information	on ingredients	
No products were found.		

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# Section 15. Regulatory information

: None of the components are listed.
: None of the components are listed.
: None of the components are listed.
: None of the components are listed.

California Prop. 65 Clear and Reasonable Warnings (2018)

▲ WARNING: This product can expose you to chemicals including Ethyl acrylate, which is known to the State of California to cause cancer, and Toluene, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

Ingredient name	%	Cancer	Reproductive	No significant risk level	Maximum acceptable dosage level
toluene	< 0.001	No.	Yes.	-	Yes.
ethyl acrylate	<0.001	Yes.	No.	-	-
cumene	<0.0001	Yes.	No.	-	-
ethylbenzene	<0.0001	Yes.	No.	Yes.	-
benzene	trace	Yes.	Yes.	Yes.	Yes.

International regulations

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

#### **Inventory list**

United States	: All components are listed or exempted.
Australia	: All components are listed or exempted.
Australia	· All components are listed of exempted.
Canada	: All components are listed or exempted.
China	: Not determined.
Europe	: All components are listed or exempted.
Japan	: Japan inventory (CSCL): Not determined. Japan inventory (ISHL): Not determined.
Malaysia	: Not determined
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	: 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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Date of issue/Date of revision

# Section 16. Other information

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

Classification		Justification
AQUATIC HAZARD (LONG-TERM) - Category 4		Calculation method
History		- <b>I</b>
Date of printing	: 2/8/2023	
Date of issue/Date of revision	: 2/8/2023	
Date of previous issue	: 9/23/2022	
Version	: 11	
Key to abbreviations	: ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor GHS = Globally Harmonized System of Classification IATA = International Air Transport Association IBC = International Air Transport Association IBC = International Maritime Dangerous Goods LogPow = logarithm of the octanol/water partition coe MARPOL = International Convention for the Preventi as modified by the Protocol of 1978. ("Marpol" = mar UN = United Nations	efficient on of Pollution From Ships, 1973
References	: Not available.	

Indicates information that has changed from previously issued version.

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