Version: 1.6 | Revision Date: 11/04/2021 | Print Date: 01/21/2022

29 CFR 1910.1200 (OSHA HazCom 2012)

SECTION 1. PRODUCT AND COMPANY IDENTIFICATION

Product identifier

Trade name : ZEREX™ ORIGINAL Antifreeze Coolant

Product code : ZX001

Relevant identified uses of the substance or mixture and uses advised against

Recommended use : Coolant and antifreeze.

Details of the supplier of the safety data sheet	**Emergency telephone number**
Valvoline LLC 100 Valvoline Way Lexington, KY 40509 United States of America (USA) 1-800-TEAMVAL (1-800-832-6825) SDS@valvoline.com	1-800-VALVOLINE (1-800-825-8654) **Regulatory Information Number** 1-800-TEAMVAL (1-800-832-6825) **Product Information** 1-800-TEAMVAL (1-800-832-6825)

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Acute toxicity (Oral) : Category 4

Reproductive toxicity : Category 1B

Specific target organ toxicity - repeated exposure (Oral) : Category 2 (Kidney, Liver)

GHS label elements

Hazard pictograms :

Signal Word : Danger

Hazard Statements : Harmful if swallowed.
May damage fertility or the unborn child.

May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.

Precautionary Statements : **Prevention:**
Obtain special instructions before use.
Do not handle until all safety precautions have been read and understood.
Do not breathe mist or vapors.
Wash skin thoroughly after handling.
Do not eat, drink or smoke when using this product.
Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
IF exposed or concerned: Get medical advice/ attention.
Storage:
Store locked up.
Disposal:
Dispose of contents/ container to an approved waste disposal plant.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Mixture

Hazardous components

Chemical name	CAS-No.	Classification	Concentration (%)
ETHYLENE GLYCOL	107-21-1	Acute Tox. 4; H302 STOT RE 2; H373	>=90.00 - <= 100.00
DIPOTASSIUM PHOSPHATE	7758-11-4	Acute Tox. 3; H311	>=0.50 - < 1.00
SODIUM BORATE DECAHYDRATE	1303-96-4	Eye Irrit. 2A; H319 Repr. 1B; H360	>=0.10 - < 0.50

Actual concentration is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice	:	Move out of dangerous area. Show this safety data sheet to the doctor in attendance. Do not leave the victim unattended.
If inhaled	:	If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.
In case of eye contact	:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Induce vomiting immediately and call a physician. Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	Effects of acute ethylene glycol poisoning appear in three fairly distinct stages. The initial stage occurs shortly after exposure, lasts 6-12 hours, and is characterized by central nervous system effects (transient exhilaration, nausea, vomiting, and in severe cases, coma, convulsions, and possible death). The second stage lasts from 12-36 hours after exposure and is initiated by the onset of coma. This phase is characterized by tachypnia, tachycardia, mild hypotension, cyanosis, and in severe cases, pulmonary edema, bronchopneumonia, cardiac enlargement, and congestive failure. The final stage occurs 24-72 post-exposure and is characterized by renal failure, ranging from a mild increase in blood urea nitrogen and creatinine followed by recovery, to complete anuria with acute tubular necrosis that can lead to death. Oxaluria is found in most cases. The most significant laboratory finding in ethylene glycol intoxication is severe metabolic acidosis. Harmful if swallowed. May damage fertility or the unborn child. May cause damage to organs through prolonged or repeated exposure if swallowed. No symptoms known or expected.
Notes to physician	:	This product contains ethylene glycol. Ethanol decreases the metabolism of ethylene glycol to toxic metabolites. Ethanol should be administered as soon as possible in cases of severe poisoning since the elimination half-life of ethylene glycol is 3 hours. If medical care will be delayed several

hours, give the patient three to four 1-ounce oral "shots" of 86-proof or higher whiskey before or during transport to the hospital. Fomepizole (4-methylpyrazole) is an effective antagonist of alcohol dehydrogenase, and as such, may be used as an antidote in the treatment of ethylene glycol poisoning. Hemodialysis effectively removes ethylene glycol and its metabolites from the body.

No hazards which require special first aid measures.

Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	No hazardous combustion products are known
Specific extinguishing methods	:	
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	Wear self-contained breathing apparatus for firefighting if necessary.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).

Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling : Do not breathe vapours/dust.
Avoid exposure - obtain special instructions before use.
Avoid contact with skin and eyes.
For personal protection see section 8.
Smoking, eating and drinking should be prohibited in the application area.
Dispose of rinse water in accordance with local and national regulations.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.
Observe label precautions.
Electrical installations / working materials must comply with the technological safety standards.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
ETHYLENE GLYCOL	107-21-1	TWA	25 ppm Vapour	ACGIH
		STEL	50 ppm Vapour	ACGIH
		STEL	10 mg/m3 Inhalable fraction, Aerosol only	ACGIH
		C	50 ppm 125 mg/m3	OSHA P0
		C	40 ppm 100 mg/m3 Vapour	CAL PEL
SODIUM BORATE DECAHYDRATE	1303-96-4	TWA	5 mg/m3	NIOSH REL
		TWA	10 mg/m3	OSHA P0
		PEL	5 mg/m3	CAL PEL
		TWA	2 mg/m3 Inhalable particulate matter	ACGIH

			(Borate)	
		STEL	6 mg/m3 Inhalable particulate matter (Borate)	ACGIH

Personal protective equipment

Respiratory protection : No personal respiratory protective equipment normally required.

Hand protection
Remarks : The suitability for a specific workplace should be discussed with the producers of the protective gloves.

Eye protection : Eye wash bottle with pure water
Tightly fitting safety goggles

Skin and body protection : Impervious clothing
Choose body protection according to the amount and concentration of the dangerous substance at the work place.

Hygiene measures : When using do not eat or drink.
When using do not smoke.
Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid

Colour : green

Odour : No data available

Odour Threshold : No data available

pH : 9 - < 11

Melting point/freezing point : No data available

Boiling point/boiling range : 387.7 °F / 197.6 °C
(1,013.232 hPa)
Calculated Phase Transition Liquid/Gas

Flash point : > 232 °F / > 111 °C

Evaporation rate : No data available

Flammability (solid, gas)	:	No data available
Self-ignition	:	No data available
Upper explosion limit / Upper flammability limit	:	15.3 %(V) GLP: Calculated Explosive Limit
Lower explosion limit / Lower flammability limit	:	3.2 %(V) GLP: Calculated Explosive Limit
Vapour pressure	:	0.12265 hPa (77 °F / 25 °C) Calculated Vapor Pressure
Relative vapour density	:	No data available
Relative density	:	No data available
Density	:	1.1205 g/cm3 (60.1 °F / 15.6 °C)
Solubility(ies)		
Water solubility	:	No data available
Solubility in other solvents	:	No data available
Partition coefficient: n-octanol/water	:	No data available
Decomposition temperature	:	No data available
Viscosity		
Viscosity, dynamic	:	No data available
Viscosity, kinematic	:	No data available
Oxidizing properties	:	No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No decomposition if stored and applied as directed.
Chemical stability	:	No decomposition if stored and applied as directed.
Possibility of hazardous reactions	:	No decomposition if stored and applied as directed.
Conditions to avoid	:	No data available
Incompatible materials	:	Aldehydes

	Alkali metals Alkaline earth metals Strong acids strong alkalis Strong oxidizing agents Sulphur compounds
Hazardous decomposition products	No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity
Harmful if swallowed.
Product:

Acute oral toxicity	:	Acute toxicity estimate: 522.35 mg/kg Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: > 5,000 mg/kg Method: Calculation method

Components:
ETHYLENE GLYCOL:

Acute oral toxicity	:	LD0 (Human): estimated 1.56 g/kg Assessment: The component/mixture is moderately toxic after single ingestion.
Acute inhalation toxicity	:	LC50 (Rat): 10.9 mg/l Exposure time: 1 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity
Acute dermal toxicity	:	LD50 (Rabbit): 9,530 mg/kg
Acute toxicity (other routes of administration)	:	LD50 (Rat): 5,010 mg/kg Application Route: Intraperitoneal LD50 (Rat): 3,260 mg/kg Application Route: Intravenous

DIPOTASSIUM PHOSPHATE:

Acute oral toxicity	:	LD50 (Rat): > 500 mg/kg LD50 (Rat, female): > 2,000 mg/kg Method: OECD Test Guideline 420 Assessment: The substance or mixture has no acute oral

toxicity

Acute dermal toxicity : LD50 (Rabbit): > 300 mg/kg

LD50 (Rabbit): > 5,000 mg/kg
Method: OECD Test Guideline 402

SODIUM BORATE DECAHYDRATE:

Acute oral toxicity : LD50 (Rat): > 2,000 mg/kg
Assessment: The substance or mixture has no acute oral toxicity
Remarks: The toxicological data has been taken from products of similar composition.
No mortality observed at this dose.

Acute inhalation toxicity : LC50 (Rat): > 2.04 mg/l
Exposure time: 4 h
Test atmosphere: dust/mist
Method: OECD Test Guideline 403
GLP: yes
Assessment: The substance or mixture has no acute inhalation toxicity
Remarks: The toxicological data has been taken from products of similar composition.
No mortality observed at this dose.

Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg
GLP: yes
Assessment: The substance or mixture has no acute dermal toxicity
Remarks: The toxicological data has been taken from products of similar composition.
No mortality observed at this dose.

Skin corrosion/irritation
Not classified based on available information.
Components:
ETHYLENE GLYCOL:
Species : Rabbit
Result : No skin irritation

DIPOTASSIUM PHOSPHATE:
Species : Rabbit
Result : Slight, transient irritation

SODIUM BORATE DECAHYDRATE:
Species : Rabbit
Result : Slight, transient irritation

Serious eye damage/eye irritation
Not classified based on available information.
Components:
ETHYLENE GLYCOL:
Result : Slight, transient irritation

DIPOTASSIUM PHOSPHATE:
Species : Rabbit
Result : Slight, transient irritation

SODIUM BORATE DECAHYDRATE:
Species : Rabbit
Result : Irritating to eyes.

Respiratory or skin sensitisation
Skin sensitisation
Not classified based on available information.
Respiratory sensitisation
Not classified based on available information.
Components:
ETHYLENE GLYCOL:
Test Type : Maximisation Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.

DIPOTASSIUM PHOSPHATE:
Test Type : Local lymph node assay
Species : Mouse
Assessment : Did not cause sensitisation on laboratory animals.
Method : OECD Test Guideline 429
Remarks : The toxicological data has been taken from products of similar composition.

SODIUM BORATE DECAHYDRATE:
Test Type : Buehler Test
Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Remarks : The toxicological data has been taken from products of similar composition.

Germ cell mutagenicity
Not classified based on available information.
Components:
ETHYLENE GLYCOL:
Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Result: negative

DIPOTASSIUM PHOSPHATE:

Genotoxicity in vitro : Test Type: Ames test
Test system: Salmonella typhimurium
Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative
Remarks: The toxicological data has been taken from products of similar composition.

Carcinogenicity
Not classified based on available information.
IARC Group 2A: Probably carcinogenic to humans
SODIUM NITRATE 7631-99-4
(nitrate (ingested) under conditions that result in endogenous nitrosation)

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity
May damage fertility or the unborn child.
Components:
SODIUM BORATE DECAHYDRATE:
Reproductive toxicity - Assessment : Clear evidence of adverse effects on sexual function and fertility, and/or on development, based on animal experiments

STOT - single exposure
Not classified based on available information.
STOT - repeated exposure
May cause damage to organs (Kidney, Liver) through prolonged or repeated exposure if swallowed.
Components:
ETHYLENE GLYCOL:
Exposure routes : Ingestion
Target Organs : Kidney, Liver
Assessment : May cause damage to organs through prolonged or repeated exposure.

Aspiration toxicity
Not classified based on available information.

Experience with human exposure
Components:
ETHYLENE GLYCOL:
Ingestion : Target Organs: Kidney

Further information
Product:
Remarks : No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Product:

Ecotoxicology Assessment		
Short-term (acute) aquatic hazard	:	Not classified based on available information.
Long-term (chronic) aquatic hazard	:	Not classified based on available information.

Components:

ETHYLENE GLYCOL:

Toxicity to fish	:	LC50 (Lepomis macrochirus (Bluegill sunfish)): 27,540 mg/l Exposure time: 96 h Test Type: static test LC50 (Pimephales promelas (fathead minnow)): 8,050 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	LC50 (Daphnia magna (Water flea)): > 10,000 mg/l Exposure time: 48 h Test Type: static test
Toxicity to algae	:	EC50 (Pseudokirchneriella subcapitata (green algae)): 6,500 - 13,000 mg/l End point: Growth inhibition Exposure time: 7 Days
Toxicity to fish (Chronic toxicity)	:	NOEC (Pimephales promelas (fathead minnow)): 32,000 mg/l Exposure time: 7 d
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	NOEC (Daphnia magna (Water flea)): 24,000 mg/l Exposure time: 7 d
Ecotoxicology Assessment		
Short-term (acute) aquatic hazard	:	Not classified based on available information.
Long-term (chronic) aquatic hazard	:	Not classified based on available information.

DIPOTASSIUM PHOSPHATE:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 100 mg/l Exposure time: 96 h Test Type: semi-static test Method: OECD Test Guideline 203

Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 100 mg/l
Exposure time: 48 h
Test Type: static test
Method: OECD Test Guideline 202
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to algae : EC50 (Desmodesmus subspicatus (green algae)): > 100 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: The toxicological data has been taken from products of similar composition.

NOEC (Desmodesmus subspicatus (green algae)): > 100 mg/l
End point: Growth inhibition
Exposure time: 72 h
Test Type: static test
Method: OECD Test Guideline 201
Remarks: The toxicological data has been taken from products of similar composition.

SODIUM BORATE DECAHYDRATE**:**

Toxicity to fish : LC50 (Fish): > 100 mg/l
Exposure time: 96 h
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to daphnia and other aquatic invertebrates : LC50 (Daphnia magna (Water flea)): 133 mg/l
Exposure time: 48 h
Test Type: static test
Remarks: The toxicological data has been taken from products of similar composition.

Toxicity to algae : NOEC (Dunaliella tertiolecta (marine algae)): 50 mg/l
End point: Growth inhibition
Exposure time: 240 h
Test Type: static test
Remarks: Information refers to the main component.

Toxicity to fish (Chronic toxicity) : NOEC (Danio rerio (zebra fish)): 13 mg/l
Exposure time: 4 d
Remarks: Information refers to the main component.

Toxicity to daphnia and other aquatic invertebrates : NOEC (Aquatic invertebrates): 16.6 mg/l
Exposure time: 28 d

(Chronic toxicity)		Test Type: flow-through test Remarks: Information refers to the main component.

Persistence and degradability
Components:
ETHYLENE GLYCOL**:**

Biodegradability	:	Result: Readily biodegradable. Biodegradation: 90 - 100 % Exposure time: 10 d Method: OECD Test Guideline 301

DIPOTASSIUM PHOSPHATE**:**

Biodegradability	:	Remarks: The methods for determining biodegradability are not applicable to inorganic substances.

No data available
Bioaccumulative potential
Components:
ETHYLENE GLYCOL**:**

Bioaccumulation	:	Species: Crayfish (Procambarus) Bioconcentration factor (BCF): 0.27 Exposure time: 61 d Concentration: 1000 mg/l Method: Flow through
Partition coefficient: n-octanol/water	:	log Pow: -1.36

No data available
Mobility in soil
Components:
No data available
Other adverse effects
No data available
Product:

Regulation	40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I Substances
Remarks	This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information	:	No data available

Components:

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

General advice	:	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.
Contaminated packaging	:	Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG
Not regulated as a dangerous good

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code
Not applicable for product as supplied.

National Regulations

CFR_ROAD
Not regulated as a dangerous good

Dangerous goods descriptions (if indicated above) may not reflect quantity, end-use or region-specific exceptions that can be applied. Consult shipping documents for descriptions that are specific to the shipment.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
METHANOL	67-56-1	100	100 (F003)

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity
This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312 Hazards : Acute toxicity (any route of exposure)
Reproductive toxicity
Specific target organ toxicity (single or repeated exposure)

SARA 313 : The following components are subject to reporting levels established by SARA Title III, Section 313:

ETHYLENE GLYCOL	107-21-1	>= 90 - <= 100 %

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).
The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

ETHYLENE GLYCOL	107-21-1	>= 90 - <= 100 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).
The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

ETHYLENE GLYCOL	107-21-1	>= 90 - <= 100 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

SODIUM HYDROXIDE	1310-73-2	>= 0 - < 0.1 %

The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

SODIUM HYDROXIDE	1310-73-2	>= 0 - < 0.1 %

This product does not contain any toxic pollutants listed under the U.S. Clean Water Act Section 307
This product does not contain any priority pollutants related to the U.S. Clean Water Act

California Prop. 65

⚠ **WARNING**: Reproductive Harm - www.P65Warnings.ca.gov.

The components of this product are reported in the following inventories:

TCSI	:	Not in compliance with the inventory
TSCA	:	All substances listed as active on the TSCA inventory
AIIC	:	Not in compliance with the inventory
DSL	:	All components of this product are on the Canadian DSL
ENCS	:	Not in compliance with the inventory
ISHL	:	Not in compliance with the inventory

KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
NZIoC	:	Not in compliance with the inventory
TECI	:	Not in compliance with the inventory

TSCA list

No substances are subject to a Significant New Use Rule.
No substances are subject to TSCA 12(b) export notification requirements.

Inventories

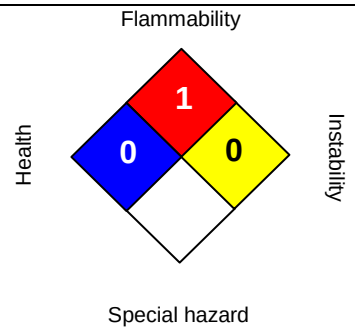
AIIC (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TECI (Thailand), TSCA (USA)

SECTION 16. OTHER INFORMATION

Further information

Internal information : 000000139197

NFPA:



HMIS III:

HEALTH	2*
FLAMMABILITY	1
PHYSICAL HAZARD	0

0 = not significant, 1 =Slight,
2 = Moderate, 3 = High
4 = Extreme, * = Chronic

NFPA Flammable and Combustible Liquids Classification

Combustible Liquid Class IIIB

Full text of H-Statements

H302	Harmful if swallowed.
H311	Toxic in contact with skin.
H319	Causes serious eye irritation.

H360	May damage fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure if swallowed.

Sources of key data used to compile the Safety Data Sheet
Valvoline internal data including own and sponsored test reports
The UNECE administers regional agreements implementing harmonised classification for labelling (GHS) and transport.

The information accumulated herein is believed to be accurate but is not warranted to be whether originating with the company or not. Recipients are advised to confirm in advance of need that the information is current, applicable, and suitable to their circumstances. This SDS has been prepared by Valvoline's Environmental Health and Safety Department (1-800-VALVOLINE).

List of abbreviations and acronyms that could be, but not necessarily are, used in this safety data sheet :
ACGIH : American Conference of Industrial Hygienists
BEI : Biological Exposure Index
CAS : Chemical Abstracts Service (Division of the American Chemical Society).
CMR : Carcinogenic, Mutagenic or Toxic for Reproduction
FG : Food grade
GHS : Globally Harmonized System of Classification and Labeling of Chemicals.
H-statement : Hazard Statement
IATA : International Air Transport Association.
IATA-DGR : Dangerous Goods Regulation by the “International Air Transport Association” (IATA).

ICAO : International Civil Aviation Organization
ICAO-TI (ICAO) : Technical Instructions by the “International Civil Aviation Organization”
IMDG : International Maritime Code for Dangerous Goods
ISO : International Organization for Standardization
logPow : octanol-water partition coefficient
LCxx : Lethal Concentration, for xx percent of test population
LDxx : Lethal Dose, for xx percent of test population.
ICxx : Inhibitory Concentration for xx of a substance
Ecxx : Effective Concentration of xx
N.O.S.: Not Otherwise Specified
OECD : Organization for Economic Co-operation and Development
OEL : Occupational Exposure Limit
P-Statement : Precautionary Statement
PBT : Persistent , Bioaccumulative and Toxic
PPE : Personal Protective Equipment
STEL : Short-term exposure limit
STOT : Specific Target Organ Toxicity
TLV : Threshold Limit Value

TWA : Time-weighted average
vPvB : Very Persistent and Very Bioaccumulative
WEL : Workplace Exposure Level

CERCLA : Comprehensive Environmental Response, Compensation, and Liability Act
DOT : Department of Transportation
FIFRA : Federal Insecticide, Fungicide, and Rodenticide Act
HMIRC : Hazardous Materials Information Review Commission
HMIS : Hazardous Materials Identification System
NFPA : National Fire Protection Association
NIOSH : National Institute for Occupational Safety and Health
OSHA : Occupational Safety and Health Administration
PMRA : Health Canada Pest Management Regulatory Agency
RTK : Right to Know
WHMIS : Workplace Hazardous Materials Information System