

## Mishimoto Liquid Chill Engine Coolant, North American Vehicles, Orange. MMRA-LC-EG-OR

Version number: 1.0:

Compilation: 2023-08-30

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name

**Mishimoto Liquid Chill Engine Coolant,  
North American Vehicles, Orange**

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

Relevant identified uses

For use as coolant only

#### 1.3 Details of the supplier of the safety data sheet

Mishimoto Automotive  
7 Boulden Circle, New Castle,  
DE 19720, United States  
Telephone: USA: 1.877.GOMISHI  
Telephone: International: +1-302-762-4501  
support@mishimoto.com  
Www.mishimoto.com

#### 1.4 Emergency telephone number INFOtrac: 1-800-535-5053

### SECTION 2: Hazard(s) identification

#### 2.1 Classification of the substance or mixture

Classification acc. to GHS

Section	Hazard class	Category	Hazard class and category	Hazard statement
3.6	carcinogenicity	2	Carc. 2	H351
3.7	reproductive toxicity	2	Repr. 2	H361
3.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Delayed or immediate effects can be expected after short or long-term exposure.

#### 2.2 Label elements

Labeling

- Signal word warning

- Pictograms

GHS08



- Hazard statements

H351

Suspected of causing cancer.

H361

Suspected of damaging fertility or the unborn child.

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- Hazard statements  
H373 May cause damage to organs through prolonged or repeated exposure.
- Precautionary statements  
P201 Obtain special instructions before use.  
P260 Do not breathe dust/fume/gas/mist/vapours/spray.  
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection.  
P308+P313 IF exposed or concerned: Get medical advice/ attention.  
P314 Get medical advice/attention if you feel unwell.  
P405 Store locked up.  
P501 Dispose of contents/container to industrial combustion plant.
- Hazardous ingredients for labelling Ethylene glycol, Sodium nitrite

### 2.3 Other hazards

of no significance




## SECTION 3: Composition/information on ingredients

### 3.1 Substances

Not relevant (mixture)

### 3.2 Mixtures

Description of the mixture

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
Ethylene glycol	CAS No 107-21-1	50 - < 75	Acute Tox. 4 / H302 Acute Tox. 5 / H313 STOT RE 2 / H373	
Sodium nitrite	CAS No 7632-00-0	< 1	Ox. Sol. 2 / H272 Acute Tox. 3 / H301 Eye Irrit. 2 / H319 Aquatic Acute 1 / H400	
Sodium Tolytriazole	CAS No 64665-57-2	< 1	Acute Tox. 4 / H302 Acute Tox. 5 / H313 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Repr. 2 / H361 Aquatic Acute 3 / H402 Aquatic Chronic 2 / H411	

For full text of abbreviations: see SECTION 16.

## SECTION 4: First-aid measures

### 4.1 Description of first-aid measures

General notes

Do not leave affected person unattended. Remove victim out of the danger area. Keep affected person warm, still and covered. Take off immediately all contaminated clothing. In all cases of doubt, or when symptoms persist, seek medical advice. In case of unconsciousness place person in the recovery position. Never give anything by mouth.

Following inhalation

If breathing is irregular or stopped, immediately seek medical assistance and start first aid actions. Provide fresh air.

Following skin contact

Wash with plenty of soap and water.

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Following eye contact

Remove contact lenses, if present and easy to do. Continue rinsing. Irrigate copiously with clean, fresh water for at least 10 minutes, holding the eyelids apart.

Following ingestion

Rinse mouth with water (only if the person is conscious). Do NOT induce vomiting.

**4.2 Most important symptoms and effects, both acute and delayed**

Symptoms and effects are not known to date.

**4.3 Indication of any immediate medical attention and special treatment needed**

none

**SECTION 5: Fire-fighting measures****5.1 Extinguishing media**

Suitable extinguishing media

Water spray, BC-powder, Carbon dioxide (CO<sub>2</sub>)

Unsuitable extinguishing media

Water jet

**5.2 Special hazards arising from the substance or mixture**

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>)

**5.3 Advice for firefighters**

In case of fire and/or explosion do not breathe fumes. Coordinate firefighting measures to the fire surroundings. Do not allow firefighting water to enter drains or water courses. Collect contaminated firefighting water separately. Fight fire with normal precautions from a reasonable distance.

**SECTION 6: Accidental release measures****6.1 Personal precautions, protective equipment and emergency procedures**

For non-emergency personnel

Remove persons to safety.

For emergency responders

Wear breathing apparatus if exposed to vapors/dust/aerosols/gases.

**6.2 Environmental precautions**

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it.

**6.3 Methods and material for containment and cleaning up**

Advice on how to contain a spill

Covering of drains

Advice on how to clean up a spill

Wipe up with absorbent material (e.g. cloth, fleece). Collect spillage: sawdust, kieselgur (diatomite), sand, universal binder

Appropriate containment techniques

Use of adsorbent materials.

Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

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### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Recommendations

- Measures to prevent fire as well as aerosol and dust generation

Use local and general ventilation. Use only in well-ventilated areas.

Advice on general occupational hygiene

Wash hands after use. Do not eat, drink and smoke in work areas. Remove contaminated clothing and protective equipment before entering eating areas. Never keep food or drink in the vicinity of chemicals. Never place chemicals in containers that are normally used for food or drink. Keep away from food, drink and animal feedingstuffs.

### 7.2 Conditions for safe storage, including any incompatibilities

Control of the effects

Protect against external exposure, such as

frost

### 7.3 Specific end use(s)

See section 16 for a general overview.

## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

Occupational exposure limit values (Workplace Exposure Limits)											
Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m <sup>3</sup> ]	STEL [ppm]	STEL [mg/m <sup>3</sup> ]	Ceiling-C [ppm]	Ceiling-C [mg/m <sup>3</sup> ]	Notation	Source
US	ethylene glycol	107-21-1	REL							appx-D	NIOSH REL
US	ethylene glycol	107-21-1	TLV®				10			i, aerosol	ACGIH® 2021
US	ethylene glycol	107-21-1	PEL (CA)					40	100	vap	Cal/OSHA PEL
US	ethylene glycol	107-21-1	TLV®	25		50				vap	ACGIH® 2021

#### Notation

aerosol	as aerosols
appx-D	see Appendix D - Substances with No Established RELs
Ceiling-C	ceiling value is a limit value above which exposure should not occur
i	inhalable fraction
STEL	short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
TWA	time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours
vap	time-weighted average (unless otherwise specified) as vapors

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Relevant DNELs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
Ethylene glycol	107-21-1	DNEL	35 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Ethylene glycol	107-21-1	DNEL	106 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Sodium nitrite	7632-00-0	DNEL	2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Sodium nitrite	7632-00-0	DNEL	2 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - systemic effects

Relevant PNECs of components of the mixture						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Ethylene glycol	107-21-1	PNEC	10 mg/l	aquatic organisms	freshwater	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	1 mg/l	aquatic organisms	marine water	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	199.5 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	37 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	3.7 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Ethylene glycol	107-21-1	PNEC	1.53 mg/kg	terrestrial organisms	soil	short-term (single instance)
Sodium nitrite	7632-00-0	PNEC	0.005 mg/l	aquatic organisms	freshwater	short-term (single instance)
Sodium nitrite	7632-00-0	PNEC	0.006 mg/l	aquatic organisms	marine water	short-term (single instance)
Sodium nitrite	7632-00-0	PNEC	21 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Sodium nitrite	7632-00-0	PNEC	0.019 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Sodium nitrite	7632-00-0	PNEC	0.022 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Sodium nitrite	7632-00-0	PNEC	0.001 mg/kg	terrestrial organisms	soil	short-term (single instance)

### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

Eye/face protection

Wear eye/face protection.

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### Skin protection

#### - Hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. Check leak-tightness/impermeability prior to use. In the case of wanting to use the gloves again, clean them before taking off and air them well. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves.

#### - Other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended. Wash hands thoroughly after handling.

### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

### Environmental exposure controls

Use appropriate container to avoid environmental contamination. Keep away from drains, surface and ground water.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	liquid
Color	not determined
Odor	characteristic
Melting point/freezing point	not determined
Boiling point or initial boiling point and boiling range	168 – 197 °C at 1,013 hPa
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	412 °C
Decomposition temperature	not relevant
pH (value)	8 – 9.5
Kinematic viscosity	not determined
Solubility(ies)	not determined

### Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapor pressure	100 Pa at 51.1 °C
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### Density and/or relative density

Density	not determined
Relative vapour density	information on this property is not available
Relative density	1.11 – 1.145 at 20 °C (water = 1)

Particle characteristics	not relevant (liquid)
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### 9.2 Other information

Information with regard to physical hazard classes	hazard classes acc. to GHS (physical hazards): not relevant
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### Other safety characteristics

Solvent content	97.81 %
Solid content	0.753 %
Temperature class (USA, acc. to NEC 500)	T2 (maximum permissible surface temperature on the equipment: 300°C)

## SECTION 10: Stability and reactivity

### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials".

### 10.2 Chemical stability

See below "Conditions to avoid".

### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

### 10.4 Conditions to avoid

There are no specific conditions known which have to be avoided.

### 10.5 Incompatible materials

Oxidizers

### 10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

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### SECTION 11: Toxicological information

#### 11.1 Information on toxicological effects

Test data are not available for the complete mixture.

##### Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

##### Classification acc. to OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

##### Acute toxicity

Shall not be classified as acutely toxic.

##### - Acute toxicity estimate (ATE)

Oral 943.4 mg/kg

Acute toxicity estimate (ATE) of components of the mixture			
Name of substance	CAS No	Exposure route	ATE
Ethylene glycol	107-21-1	oral	500 mg/kg
Ethylene glycol	107-21-1	dermal	>3,500 mg/kg
Sodium nitrite	7632-00-0	oral	100 mg/kg
Sodium Tolytriazole	64665-57-2	oral	735 mg/kg
Sodium Tolytriazole	64665-57-2	dermal	>2,000 mg/kg

##### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

##### Serious eye damage/eye irritation

Shall not be classified as seriously damaging to the eye or eye irritant.

##### Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

##### Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

##### Carcinogenicity

Suspected of causing cancer.

##### Reproductive toxicity

Suspected of damaging the unborn child. Suspected of damaging fertility.

##### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

##### Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

##### Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

#### 11.2 Information on other hazards

There is no additional information.



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**SECTION 12: Ecological information****12.1 Toxicity**

Shall not be classified as hazardous to the aquatic environment.

**12.2 Persistence and degradability**

Data are not available.

**12.3 Bioaccumulative potential**

Data are not available.

**12.4 Mobility in soil**

Data are not available.

**12.5 Results of PBT and vPvB assessment**

Data are not available.

**12.6 Endocrine disrupting properties**

Information on this property is not available.

**12.7 Other adverse effects**

Data are not available.

**SECTION 13: Disposal considerations****13.1 Waste treatment methods**

Sewage disposal-relevant information

Do not empty into drains. Avoid release to the environment. Refer to special instructions/safety data sheets.

Waste treatment of containers/packages

Completely emptied packages can be recycled. Handle contaminated packages in the same way as the substance itself.

**Remarks**

Please consider the relevant national or regional provisions. Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities.

**SECTION 14: Transport information**

<b>14.1 UN number</b>	not subject to transport regulations
<b>14.2 UN proper shipping name</b>	not relevant
<b>14.3 Transport hazard class(es)</b>	not assigned
<b>14.4 Packing group</b>	not assigned
<b>14.5 Environmental hazards</b>	non-environmentally hazardous acc. to the dangerous goods regulations
<b>14.6 Special precautions for user</b>	There is no additional information.
<b>14.7 Maritime transport in bulk according to IMO instruments</b>	The cargo is not intended to be carried in bulk.

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### Information for each of the UN Model Regulations

#### Transport of dangerous goods by road or rail (49 CFR US DOT) - Additional information

Not subject to transport regulations.

#### International Maritime Dangerous Goods Code (IMDG) - Additional information

Not subject to IMDG.

#### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Not subject to ICAO-IATA.

## SECTION 15: Regulatory information

### 15.1 Safety, health and environmental regulations specific for the product in question

#### National regulations (United States)

##### Superfund Amendment and Reauthorization Act (SARA TITLE III)

- The List of Extremely Hazardous Substances and Their Threshold Planning Quantities (EPCRA Section 302, 304)

none of the ingredients are listed

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings			
Name of substance	CAS No	Remarks	Effective date
Ethylene glycol	107-21-1		1986-12-31

##### Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA)

- List of Hazardous Substances and Reportable Quantities (CERCLA section 102a) (40 CFR 302.4)

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
Ethylene glycol	107-21-1		3	5000 (2270)

#### Legend

3 "3" indicates that the source is section 112 of the Clean Air Act

#### Clean Air Act

none of the ingredients are listed

#### Right to Know Hazardous Substance List

- Cleaning Product Right to Know Act Substance List (CA-RTK)

Name of substance	CAS No	Functionality	Authoritative Lists
Ethylene glycol	107-21-1		CA NLS CA TACs NTP OHAT - Repr. or Dev. Toxicants OEHHHA RELs Prop 65

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### - Toxic or Hazardous Substance List (MA-TURA)

Name of substance	CAS No	DEP CODE	PBT / HHS / LHS	PBT / HHS Threshold	De Minimis Concentration Threshold
Sodium nitrite	7632-00-0				1.0 %
Ethylene glycol	107-21-1				1.0 %

### - Hazardous Substances List (MN-ERTK)

Name of substance	CAS No	References	Remarks
Ethylene glycol	107-21-1	A	particulate vapor

#### Legend

A American Conference of Governmental Industrial Hygienists (ACGIH), "Threshold Limit Values for Chemical Substances and Physical Agents and Biological Exposure Indices for 1992-93", available from ACGIH

### - Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
Sodium nitrite	7632-00-0		
Ethylene glycol	107-21-1		

### - Hazardous Substance List (Chapter 323) (PA-RTK)

Name acc. to inventory	CAS No	Classification
NITROUS ACID, SODIUM SALT	7632-00-0	E
1,2-ETHANEDIOL	107-21-1	E

#### Legend

E Environmental hazard

### - Hazardous Substance List (RI-RTK)

Name of substance	CAS No	References
Ethylene glycol	107-21-1	T, F

#### Legend

F Flammability (NFPA®)  
T Toxicity (ACGIH®)

### California Environmental Protection Agency (Cal/EPA): Proposition 65 - Safe Drinking Water and Toxic Enforcement Act of 1987

Proposition 65 List of chemicals			
Name acc. to inventory	CAS No	Remarks	Type of the toxicity
ethylene glycol (ethanediol)	107-21-1		developmental

### Industry or sector specific available guidance(s)

#### NPCA-HMIS® III

Hazardous Materials Identification System. American Coatings Association.

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Category	Rating	Description
Chronic	*	chronic (long-term) health effects may result from repeated overexposure
Health	0	no significant risk to health
Flammability	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

### NFPA® 704

National Fire Protection Association: Standard System for the Identification of the Hazards of Materials for Emergency Response (United States).

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	0	material that, under emergency conditions, would offer no hazard beyond that of ordinary combustible material
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

### 15.2 Chemical Safety Assessment

Chemical safety assessments for substances in this mixture were not carried out.

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

### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
1.1	Trade name: MISHIMOTO LIQUID CHILL 150,000 ORANGE, YELLOW, PURPLE COOLANT AND ANTIFREEZE NORTH AMERICAN VEHICLES 150,000 MILES (ORANGE) ----- COOLANT AND ANTIFREEZE UNIVERSAL, ALL VEHICLES 150,000 MILES (YELLOW) ----- COOLANT AND ANTIFREEZE NORTH AMERICAN VEHICLES 150,000 MILES (PURPLE) -----	Trade name: MISHIMOTO LIQUID CHILL 150,000 MILES ORANGE, YELLOW, PURPLE COOLANT AND ANTIFREEZE NORTH AMERICAN VEHICLES 150,000 MILES (ORANGE) ----- COOLANT AND ANTIFREEZE UNIVERSAL, ALL VEHICLES 150,000 MILES (YELLOW) ----- COOLANT AND ANTIFREEZE NORTH AMERICAN VEHICLES 150,000 MILES (PURPLE)	yes
2.1		Classification acc. to GHS: change in the listing (table)	yes
2.1	The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure. Spillage and fire water can cause pollution of watercourses.	The most important adverse physicochemical, human health and environmental effects: Delayed or immediate effects can be expected after short or long-term exposure.	yes
2.2		- Pictograms: change in the listing (table)	yes
2.2		- Hazard statements: change in the listing (table)	yes
2.2		- Precautionary statements: change in the listing (table)	yes

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Section	Former entry (text/value)	Actual entry (text/value)	Safety-relevant
11.1	Acute toxicity: Harmful if swallowed.	Acute toxicity: Shall not be classified as acutely toxic.	yes
12.1	Toxicity: Harmful to aquatic life.	Toxicity: Shall not be classified as hazardous to the aquatic environment.	yes
12.1		Aquatic toxicity (acute) of components of the mixture: change in the listing (table)	yes
16		Abbreviations and acronyms: change in the listing (table)	yes

### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2021	From ACGIH®, 2021 TLVs® and BEIs® Book. Copyright 2021. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: <a href="http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement">http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement</a>
Acute Tox.	Acute toxicity
Aquatic Acute	Hazardous to the aquatic environment - acute hazard
Aquatic Chronic	Hazardous to the aquatic environment - chronic hazard
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DEP CODE	Department of Environmental Protection Code
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
HHS	Higher hazard substance
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
IMDG	International Maritime Dangerous Goods Code
LHS	Lower hazard substance
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)

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Abbr.	Descriptions of used abbreviations
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
Ox. Sol.	Oxidizing solid
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Repr.	Reproductive toxicity
RTECS	Registry of Toxic Effects of Chemical Substances (database of NIOSH with toxicological information)
Skin Corr.	Corrosive to skin
Skin Irrit.	Irritant to skin
STEL	Short-term exposure limit
STOT RE	Specific target organ toxicity - repeated exposure
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

### Key literature references and sources for data

Globally Harmonized System of Classification and Labelling of Chemicals ("Purple book").

Transport of dangerous goods by road or rail (49 CFR US DOT). International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

### Classification procedure

Physical and chemical properties: The classification is based on tested mixture.

Health hazards, Environmental hazards: The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H272	May intensify fire; oxidizer.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H313	May be harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H351	Suspected of causing cancer.
H361	Suspected of damaging fertility or the unborn child.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.

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Code	Text
H402	Harmful to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

**Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.