

acc. to 29 CFR 1910.1200 App D

# Mishimoto Liquid Chill Engine Coolant, European/Asian Vehicles, Blue. MMRA-LC-EG-BL

Version number: 1.0: Compilation: 2023-08-30

#### **SECTION 1: Identification**

#### 1.1 Product identifier

Trade name

Mishimoto Liquid Chill Engine Coolant, European/Asian Vehicles, Blue

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

Relevant identified uses general use

#### 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 OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and cat- egory	Hazard state- ment
A.6	carcinogenicity	2	Carc. 2	H351
A.7	reproductive toxicity	2	Repr. 2	H361
A.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

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

- Signal word warning

- Pictograms

GHS08



#### - Hazard statements

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.

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- Precautionary statements

P201 Obtain special instructions before use.

P260 Do not breathe dust/fume/gas/mist/vapors/spray.

P280 Wear protective gloves/protective clothing/eye protection/face 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, Succinic Acid, Sodium Tolytriazole

#### 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 STOT RE 2 / H373	<u>(1)</u>
Succinic Acid	CAS No 110-15-6 102110-15-6	1-<5	Acute Tox. 4 / H302 Acute Tox. 4 / H332 Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 Carc. 2 / H351 STOT SE 3 / H335 STOT SE 3 / H336 Asp. Tox. 1 / H304 Flam. Liq. 3 / H226	
Sodium Tolytriazole	CAS No 64665-57-2	<1	Acute Tox. 4 / H302 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Repr. 2 / H361	

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.

#### 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.

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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 (CO2)

Unsuitable extinguishing media

Water jet

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

Hazardous combustion products

Carbon monoxide (CO), Carbon dioxide (CO2)

#### 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.

#### 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.

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#### **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)

Coun- try	Name of agent	CAS No	Identi- fier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]		Ceiling-C [mg/m³]	Nota- tion	Source
US	ethylene glycol	107-21-1	REL							appx-D	NIOSH REL
US	ethylene glycol	107-21-1	TLV®				10			i, aero- sol	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

inhalable fraction

STEL short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute peri-

od (unless otherwise specified)

TWA time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 hours

time-weighted average (unless otherwise specified

vap as vapors

#### 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 ef- fects

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#### 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 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single in- stance)
Ethylene glycol	107-21-1	PNEC	1 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single in- stance)
Ethylene glycol	107-21-1	PNEC	199.5 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treatment plant (STP)	short-term (single in- stance)
Ethylene glycol	107-21-1	PNEC	37 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sediment	short-term (single in- stance)
Ethylene glycol	107-21-1	PNEC	3.7 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single in- stance)
Ethylene glycol	107-21-1	PNEC	1.53 <sup>mg</sup> / <sub>kg</sub>	terrestrial organ- isms	soil	short-term (single in- stance)
Succinic Acid	110-15-6 102110-15-6	PNEC	0.001 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single in- stance)
Succinic Acid	110-15-6 102110-15-6	PNEC	0.001 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single in- stance)

#### 8.2 Exposure controls

Appropriate engineering controls

General ventilation.

Individual protection measures (personal protective equipment)

#### Eye/face protection

Wear eye/face protection.

#### 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.

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### SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

#### **Appearance**

Physical state	liquid
Color	not determined
Particle	not relevant (liquid)
Odor	characteristic

#### Other safety parameters

pH (value)	$8-9.5$ (in aqueous solution: 1,000 $^{\mathrm{mg}}/_{\mathrm{cm}^3}$ , 20 °C)
Melting point/freezing point	not determined
Initial boiling point and boiling range	170 °C at 1,013 hPa
Flash point	100 °C at 1 atm
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	0.2 PSI at 20 °C
Density	not determined
Vapor density	this information is not available
Relative density	1.11 – 1.145 at 20 °C (water = 1)
Solubility(ies)	not determined

#### Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	409 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

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#### 9.2 Other information

Solvent content	97.5 %
Solid content	0.5 %
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.

#### **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) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
Succinic Acid	110-15-6 102110-15-6	oral	590 <sup>mg</sup> / <sub>kg</sub>
Sodium Tolytriazole	64665-57-2	oral	735 <sup>mg</sup> / <sub>kg</sub>

#### 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.

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#### 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.

#### **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.

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#### **SECTION 14: Transport information**

**14.1 UN number** not subject to transport regulations

14.2 UN proper shipping name not relevant14.3 Transport hazard class(es) not assigned

**14.4 Packing group** not assigned

**14.5 Environmental hazards** non-environmentally hazardous acc. to the dan-

gerous goods regulations

14.6 Special precautions for user

There is no additional information.

#### 14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

#### **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

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<sup>3 &</sup>quot;3" indicates that the source is section 112 of the Clean Air Act



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#### 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 OEHHA RELs Prop 65
Succinic Acid	102110-15-6		EC Annex VI CMRs - Cat. 1B

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

Name of substance	CAS No	DEP CODE		De Minimis Concentration Threshold
Ethylene glycol	107-21-1			1.0 %

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

Name of substance	CAS No	References	Remarks
Succinic Acid		N	
Ethylene glycol	107-21-1	А	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

N National Institute for Occupational Safety and Health (NIOSH), "Recommendations for Occupational Safety and Health Stand-

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

Name of substance	CAS No	Remarks	Classifications
Ethylene glycol	107-21-1		

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

Name acc. to inventory	CAS No	Classification
1,2-ETHANEDIOL	107-21-1	Е

#### 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®)

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N National Institute for Occupational Safety and Health (NIOSH), "Recommendations for Occupational Safety and Health Standards," August 1988, available from NIOSH, Publications Dissemination Office, Division of Standards Development and Technology Transfer



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## 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.

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 or- dinary 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-rel- evant
1.1	Trade name: MISHIMOTO LIQUID CHILL 750,000 MILES BLUE, PINK/RED COOLANT AND ANTIFREEZE EUROPEAN/ASIAN VEHICLES BLUE	Trade name:  MISHIMOTO LIQUID CHILL 150,000 MILES BLUE, PINK/RED	yes

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### **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®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presentations/tlv-bei-position-statement
Acute Tox.	Acute toxicity
Asp. Tox.	Aspiration hazard
ATE	Acute Toxicity Estimate
Cal/OSHA PEL	California Division of Occupational Safety and Health (Cal/OSHA): Permissible Exposure Limits (PELs)
Carc.	Carcinogenicity
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
Flam. Liq.	Flammable liquid
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
MARPOL	International Convention for the Prevention of Pollution from Ships (abbr. of "Marine Pollutant")
NFPA®	National Fire Protection Association (United States)
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
Repr.	Reproductive toxicity

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Abbr.	Descriptions of used abbreviations
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
STOT SE	Specific target organ toxicity - single exposure
TLV®	Threshold Limit Values
TWA	Time-weighted average
vPvB	Very Persistent and very Bioaccumulative

#### Key literature references and sources for data

OSHA Hazard Communication Standard (HCS), 29 CFR 1910.1200.

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
H226	Flammable liquid and vapor.
H302	Harmful if swallowed.
H304	May be fatal if swallowed and enters airways.
H314	Causes severe skin burns and eye damage.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
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.

#### Disclaimer

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

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