



CHEMISPHERE

# Safety Data Sheet

acc. to 29 CFR 1910.1200 App D

## PENETONE PENAIR M5571

Version number: 2.0  
Replaces version of: 2024-02-21 (1)

Revision: 2024-08-06

### SECTION 1: Identification

#### 1.1 Product identifier

Trade name **PENETONE PENAIR M5571**  
Alternative number(s) XB14120

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

Relevant identified uses Aircraft stain and carbon remover

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

Chemisphere  
2101 Clifton Ave  
St. Louis MO 63139  
United States  
Telephone: 314-644-1300  
Fax: 314-644-7194  
Website: www.ChemisphereCorp.com  
Email: jbrooks@chemispherecorp.com

#### 1.4 Emergency telephone number

Emergency information service CHEMTREC: 800-424-9300 (24 Hour)

### 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 category	Hazard statement
A.2	skin corrosion/irritation	2	Skin Irrit. 2	H315
A.3	serious eye damage/eye irritation	2A	Eye Irrit. 2A	H319
A.8	specific target organ toxicity - single exposure	2	STOT SE 2	H371
A.9	specific target organ toxicity - repeated exposure	2	STOT RE 2	H373
A.10	aspiration hazard	1	Asp. Tox. 1	H304
B.6	flammable liquid	4	Flam. Liq. 4	H227

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. The product is combustible and can be ignited by potential ignition sources.

#### 2.2 Label elements

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

- Signal word danger



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### - Pictograms

GHS07, GHS08



### - Hazard statements

H227 Combustible liquid.  
 H304 May be fatal if swallowed and enters airways.  
 H315 Causes skin irritation.  
 H319 Causes serious eye irritation.  
 H371 May cause damage to organs.  
 H373 May cause damage to organs through prolonged or repeated exposure.

### - Precautionary statements

P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.  
 P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
 P270 Do not eat, drink or smoke when using this product.  
 P280 Wear protective gloves/eye protection/face protection.  
 P301+P310 If swallowed: Immediately call a poison center/doctor.  
 P302+P352 If on skin: Wash with plenty of water.  
 P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
 P308+P311 If exposed or concerned: Call a poison center/doctor.  
 P314 Get medical advice/attention if you feel unwell.  
 P321 Specific treatment (see on this label).  
 P331 Do NOT induce vomiting.  
 P332+P313 If skin irritation occurs: Get medical advice/attention.  
 P337+P313 If eye irritation persists: Get medical advice/attention.  
 P362 Take off contaminated clothing and wash before reuse.  
 P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher to extinguish.  
 P403+P235 Store in a well-ventilated place. Keep cool.  
 P405 Store locked up.  
 P501 Dispose of contents/container to industrial combustion plant.

### 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%
Water	CAS No	7732-18-5	25 - < 50
nonylphenol, ethoxylated	CAS No	127087-87-0	10 - < 25
DPM Dipropylene Glycol Methyl	CAS No	34590-94-8	10 - < 25



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Name of substance	Identifier		Wt%
Dipropylene Glycol	CAS No	25265-71-8	5 - < 10
Aromatic 150	CAS No	64742-94-5	5 - < 10
Capramide DEA	CAS No	136-26-5	5 - < 10
Surfonic N95/T-DET N9.5	CAS No	68412-54-4	5 - < 10
d-Limonene	CAS No	5989-27-5	1 - < 5
Morpholine	CAS No	110-91-8	0.1 - < 1

### Remarks

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. In case of respiratory tract irritation, consult a physician. 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.

#### 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

In case of insufficient ventilation and/or in use, may form flammable/explosive vapor-air mixture. Solvent vapors are heavier than air and may spread along floors. Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures.



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Hazardous combustion products

Nitrogen oxides (NO<sub>x</sub>), 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.

### 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. Avoidance of ignition sources. Keep away from sources of ignition - No smoking. Take precautionary measures against static discharge. Use only in well-ventilated areas. Due to danger of explosion, prevent leakage of vapours into cellars, flues and ditches. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools.

- Specific notes/details

Places which are not ventilated, e.g. unventilated below ground level areas such as trenches, conduits and shafts, are particularly prone to the presence of flammable substances or mixtures. Vapors are heavier than air, spread along floors and form explosive mixtures with air. Vapors may form explosive mixtures with air.

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.



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

Managing of associated risks

#### - Explosive atmospheres

Keep container tightly closed and in a well-ventilated place. Use local and general ventilation. Keep cool. Protect from sunlight.

#### - Flammability hazards

Keep away from sources of ignition - No smoking. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Take precautionary measures against static discharge. Protect from sunlight.

Control of the effects

Protect against external exposure, such as  
frost

#### - Ventilation requirements

Use local and general ventilation. Ground/bond container and receiving equipment.

### 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	morpholine	110-91-8	REL	20 (10 h)	70 (10 h)	30	105			H	NIOSH REL
US	morpholine	110-91-8	TLV®	20						H	ACGIH® 2024
US	morpholine	110-91-8	PEL	20	70					H	29 CFR 1910.10 00
US	morpholine (tetrahydro-2H-1,4-oxazine)	110-91-8	PEL (CA)	20	70	30	105			H	Cal/OSHA PEL
US	dipropylene glycol methyl ether	34590-94-8	PEL (CA)	100	600	150	900			H	Cal/OSHA PEL
US	dipropylene glycol methyl ether	34590-94-8	REL	100 (10 h)	600 (10 h)	150	900			H	NIOSH REL
US	dipropylene glycol methyl ether	34590-94-8	PEL	100	600					H	29 CFR 1910.10 00
US	dipropylene glycol methyl ether (DP-GME)	34590-94-8	TLV®	50							ACGIH® 2024

#### Notation

Ceiling-C ceiling value is a limit value above which exposure should not occur



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### Notation

H	absorbed through the skin
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 time-weighted average (unless otherwise specified)

### Relevant DNELs of components

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
DPM Dipropylene Glycol Methyl	34590-94-8	DNEL	308 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
DPM Dipropylene Glycol Methyl	34590-94-8	DNEL	283 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Dipropylene Glycol	25265-71-8	DNEL	238 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Dipropylene Glycol	25265-71-8	DNEL	84 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Surfonic N95/T-DET N9.5	68412-54-4	DNEL	4.7 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Surfonic N95/T-DET N9.5	68412-54-4	DNEL	66.7 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Capramide DEA	136-26-5	DNEL	11.5 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
Capramide DEA	136-26-5	DNEL	0.75 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
d-Limonene	5989-27-5	DNEL	66.7 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - systemic effects
d-Limonene	5989-27-5	DNEL	9.5 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
Morpholine	110-91-8	DNEL	36 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	chronic - local effects
Morpholine	110-91-8	DNEL	72 mg/m <sup>3</sup>	human, inhalatory	worker (industry)	acute - local effects
Morpholine	110-91-8	DNEL	0.84 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

### Relevant PNECs of components

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
DPM Dipropylene Glycol Methyl	34590-94-8	PNEC	19 mg/l	aquatic organisms	freshwater	short-term (single instance)
DPM Dipropylene Glycol Methyl	34590-94-8	PNEC	1.9 mg/l	aquatic organisms	marine water	short-term (single instance)
DPM Dipropylene Glycol Methyl	34590-94-8	PNEC	4,168 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
DPM Dipropylene	34590-94-8	PNEC	70.2 mg/kg	aquatic organisms	freshwater sediment	short-term (single in-



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Relevant PNECs of components						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
Glycol Methyl						stance)
DPM Dipropylene Glycol Methyl	34590-94-8	PNEC	7.02 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
DPM Dipropylene Glycol Methyl	34590-94-8	PNEC	2.74 mg/kg	terrestrial organisms	soil	short-term (single instance)
Dipropylene Glycol	25265-71-8	PNEC	0.1 mg/l	aquatic organisms	freshwater	short-term (single instance)
Dipropylene Glycol	25265-71-8	PNEC	0.01 mg/l	aquatic organisms	marine water	short-term (single instance)
Dipropylene Glycol	25265-71-8	PNEC	1,000 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Dipropylene Glycol	25265-71-8	PNEC	0.238 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Dipropylene Glycol	25265-71-8	PNEC	0.024 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Dipropylene Glycol	25265-71-8	PNEC	0.025 mg/kg	terrestrial organisms	soil	short-term (single instance)
Surfonic N95/T-DET N9.5	68412-54-4	PNEC	0.8 µg/l	aquatic organisms	freshwater	short-term (single instance)
Surfonic N95/T-DET N9.5	68412-54-4	PNEC	0.8 µg/l	aquatic organisms	marine water	short-term (single instance)
Surfonic N95/T-DET N9.5	68412-54-4	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Surfonic N95/T-DET N9.5	68412-54-4	PNEC	4.6 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Surfonic N95/T-DET N9.5	68412-54-4	PNEC	0.46 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Capramide DEA	136-26-5	PNEC	7 µg/l	aquatic organisms	freshwater	short-term (single instance)
Capramide DEA	136-26-5	PNEC	0.7 µg/l	aquatic organisms	marine water	short-term (single instance)
Capramide DEA	136-26-5	PNEC	830 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Capramide DEA	136-26-5	PNEC	0.23 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Capramide DEA	136-26-5	PNEC	23 µg/kg	aquatic organisms	marine sediment	short-term (single instance)
Capramide DEA	136-26-5	PNEC	32 mg/kg	terrestrial organisms	soil	short-term (single instance)
d-Limonene	5989-27-5	PNEC	14 µg/l	aquatic organisms	freshwater	short-term (single instance)
d-Limonene	5989-27-5	PNEC	1.4 µg/l	aquatic organisms	marine water	short-term (single in-



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Relevant PNECs of components						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
						stance)
d-Limonene	5989-27-5	PNEC	1.8 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
d-Limonene	5989-27-5	PNEC	3.85 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
d-Limonene	5989-27-5	PNEC	0.385 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
d-Limonene	5989-27-5	PNEC	0.763 mg/kg	terrestrial organisms	soil	short-term (single instance)
Morpholine	110-91-8	PNEC	0.163 mg/l	aquatic organisms	freshwater	short-term (single instance)
Morpholine	110-91-8	PNEC	0.016 mg/l	aquatic organisms	marine water	short-term (single instance)
Morpholine	110-91-8	PNEC	10 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
Morpholine	110-91-8	PNEC	1.83 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
Morpholine	110-91-8	PNEC	0.183 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
Morpholine	110-91-8	PNEC	0.269 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. Use safety goggle with side protection. Wear face-shield.

##### Skin protection

###### - Hand protection

Wear suitable gloves.

###### - Other protection measures

Wash hands thoroughly after handling. Protective clothing against liquid chemicals. Footwear protecting against chemicals.

##### Respiratory protection

In case of inadequate ventilation wear respiratory protection.

##### Environmental exposure controls

Avoid release to the environment.





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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)	not determined
Melting point/freezing point	not determined
Initial boiling point and boiling range	100 °C
Flash point	29 °C at 101.3 kPa
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	≤3.7 kPa at 37.8 °C
Density	not determined
Vapor density	this information is not available
Relative density	information on this property is not available
Solubility(ies)	not determined

##### Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	207 °C (auto-ignition temperature (liquids and gases))
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

#### 9.2 Other information



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Liquid content	100 %
Solid content	0 %
Temperature class (USA, acc. to NEC 500)	T3 (maximum permissible surface temperature on the equipment: 200°C)

### SECTION 10: Stability and reactivity

#### 10.1 Reactivity

Concerning incompatibility: see below "Conditions to avoid" and "Incompatible materials". The mixture contains reactive substance(s). Risk of ignition.

If heated:

Risk of ignition

#### 10.2 Chemical stability

See below "Conditions to avoid".

#### 10.3 Possibility of hazardous reactions

No known hazardous reactions.

#### 10.4 Conditions to avoid

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Hints to prevent fire or explosion

Use explosion-proof electrical/ventilating/lighting/equipment. Use only non-sparking tools. Take precautionary measures against static discharge.

#### 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.

GHS of the United Nations, annex 4: May be harmful if swallowed or if inhaled.



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Acute toxicity estimate (ATE) of components			
Name of substance	CAS No	Exposure route	ATE
nonylphenol, ethoxylated	127087-87-0	oral	500 mg/kg
nonylphenol, ethoxylated	127087-87-0	inhalation: vapor	11 mg/l/4h
Dipropylene Glycol	25265-71-8	inhalation: vapor	11 mg/l/4h
Dipropylene Glycol	25265-71-8	inhalation: dust/mist	>2.34 mg/l/4h
Morpholine	110-91-8	oral	1,900 mg/kg
Morpholine	110-91-8	dermal	500 mg/kg
Morpholine	110-91-8	inhalation: vapor	11 mg/l/4h

### Skin corrosion/irritation

Causes skin irritation.

### Serious eye damage/eye irritation

Causes serious eye irritation.

### 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

Shall not be classified as carcinogenic.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans			
Name of substance	CAS No	Classification	Number
Morpholine	110-91-8	3	
d-Limonene	5989-27-5	3	

### Legend

3 Not classifiable as to carcinogenicity in humans

### Reproductive toxicity

Shall not be classified as a reproductive toxicant.

### Specific target organ toxicity - single exposure

May cause damage to organs.

### Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

### Aspiration hazard

May be fatal if swallowed and enters airways.

## SECTION 12: Ecological information

### 12.1 Toxicity

Shall not be classified as hazardous to the aquatic environment.



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### 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.

### 12.7 Other adverse effects

Data are not available.

## SECTION 13: Disposal considerations

### 13.1 Waste treatment methods

Solvent reclamation/regeneration.

#### 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

14.1 UN number not assigned

14.2 UN proper shipping name not assigned

14.3 Transport hazard class(es) none

14.4 Packing group not assigned

14.5 Environmental hazards non-environmentally hazardous acc. to the dangerous goods regulations

### 14.6 Special precautions for user

Do not handle until all safety precautions have been read and understood. .

### 14.7 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

Marine pollutant -

Danger label(s) 3





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Special provisions (SP)	223, 274, 955
Excepted quantities (EQ)	E1
Limited quantities (LQ)	5 L
EmS	F-E, <u>S-E</u>
Stowage category	A

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

Danger label(s) 3



Special provisions (SP)	A3
Excepted quantities (EQ)	E1
Limited quantities (LQ)	10 L

## SECTION 15: Regulatory information

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

#### National regulations (United States)

##### Toxic Substance Control Act (TSCA)

all ingredients are listed (ACTIVE) or exempt from listing

##### 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)

none of the ingredients are listed

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

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

none of the ingredients are listed

##### 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)

none of the ingredients are listed

- Toxic or Hazardous Substance List (MA-TURA)

none of the ingredients are listed



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

Name of substance	CAS No	Remarks	Classifications
Morpholine	110-91-8		CO F3 R1
d-Limonene	138-86-3		F2
DPM Dipropylene Glycol Methyl	34590-94-8		F2

#### Legend

CO Corrosive  
F2 Flammable - Second Degree  
F3 Flammable - Third Degree  
R1 Reactive - First Degree

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

Name of substance	CAS No	References
Morpholine	110-91-8	T, F
Morpholine	110-91-8	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

none of the ingredients are listed

### Drug precursors, Chemicals designated within the Controlled Substances Act, 21 U.S.C. § 802, paragraphs 34 (list I) and 35 (list II)

none of the ingredients are listed

### 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	2	temporary or minor injury may occur
Flammability	3	material that can be ignited under almost all ambient temperature conditions
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).



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Category	Degree of hazard	Description
Flammability	3	material that can be ignited under almost all ambient temperature conditions
Health	2	material that, under emergency conditions, can cause temporary incapacitation or residual injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

### National inventories

Country	Inventory	Status
AU	AIIC	all ingredients are listed
CA	DSL	all ingredients are listed
CN	IECSC	all ingredients are listed
EU	ECSI	all ingredients are listed
EU	REACH Reg.	all ingredients are listed
JP	CSCL-ENCS	not all ingredients are listed
JP	ISHA-ENCS	not all ingredients are listed
KR	KECI	all ingredients are listed
MX	INSQ	not all ingredients are listed
NZ	NZIoC	not all ingredients are listed
PH	PICCS	not all ingredients are listed
TR	CICR	not all ingredients are listed
TW	TCSI	all ingredients are listed
US	TSCA	all ingredients are listed (ACTIVE)

#### Legend

AIIC	Australian Inventory of Industrial Chemicals
CICR	Chemical Inventory and Control Regulation
CSCL-ENCS	List of Existing and New Chemical Substances (CSCL-ENCS)
DSL	Domestic Substances List (DSL)
ECSI	EC Substance Inventory (EINECS, ELINCS, NLP)
IECSC	Inventory of Existing Chemical Substances Produced or Imported in China
INSQ	National Inventory of Chemical Substances
ISHA-ENCS	Inventory of Existing and New Chemical Substances (ISHA-ENCS)
KECI	Korea Existing Chemicals Inventory
NZIoC	New Zealand Inventory of Chemicals
PICCS	Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg.	REACH registered substances
TCSI	Taiwan Chemical Substance Inventory
TSCA	Toxic Substance Control Act

### 15.2 Chemical Safety Assessment

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



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### 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
3.2		Description of the mixture: change in the listing (table)	yes
8.1		Occupational exposure limit values (Workplace Exposure Limits): change in the listing (table)	yes
8.1		Relevant DNELs of components: change in the listing (table)	yes
8.1		Relevant PNECs of components: change in the listing (table)	yes

#### Abbreviations and acronyms

Abbr.	Descriptions of used abbreviations
29 CFR 1910.1000	29 CFR 1910.1000, Tables Z-1, Z-2, Z-3 - Occupational Safety and Health Standards: Toxic and Hazardous Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH®	American Conference of Governmental Industrial Hygienists
ACGIH® 2024	From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. 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>
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
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
IARC	International Agency for Research on Cancer
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
NFPA®	National Fire Protection Association (United States)





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Abbr.	Descriptions of used abbreviations
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NLP	No-Longer Polymer
NPCA-HMIS® III	National Paint and Coatings Association: Hazardous Materials Identification System - HMIS® III, Third Edition
OSHA	Occupational Safety and Health Administration (United States)
PEL	Permissible exposure limit
PNEC	Predicted No-Effect Concentration
ppm	Parts per million
STEL	Short-term exposure limit
TLV®	Threshold Limit Values
TWA	Time-weighted average

### 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
H227	Combustible liquid.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

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