acc. to 29 CFR 1910.1200 App D



PEN-STRIP 3936C

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SECTION 1: Identification

1.1 **Product identifier**

Trade name	PEN-STRIP 3936C

Alternative number(s) XB16059

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

Relevant identified uses Hot tank paint stripper

Uses advised against Do not use for products which come into direct contact with the skin.

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 cat- egory	Hazard state- ment
A.2	skin corrosion/irritation	1C	Skin Corr. 1C	H314
A.3	serious eye damage/eye irritation	1	Eye Dam. 1	H318
A.6	carcinogenicity	2	Carc. 2	H351
A.7	reproductive toxicity	1B	Repr. 1B	H360
A.8R	specific target organ toxicity - single exposure (respiratory tract irritation)	3	STOT SE 3	H335

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects Skin corrosion produces an irreversible damage to the skin; namely, visible necrosis through the epidermis and into the dermis.

2.2 Label elements

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

- Signal word danger

Safety Data Sheet acc. to 29 CFR 1910.1200 App D



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- Pictograms

GHS05, GHS07, GHS08



- Hazard statements	
H314	Causes severe skin burns and eye damage.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.

 Precautionary state 	ements
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dusts or mists.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye protection/face protection.
P301+P330+P331	If swallowed: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
P304+P340	If inhaled: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a poison center/doctor.
P321	Specific treatment (see on this label).
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for **MONOETHANOLAMINE 99%**

labelling

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	Ider	ntifier	Wt%
NMP	CAS No	872-50-4	60 - < 75
MONOETHANOLAMINE 99%	CAS No	141-43-5	15-<25
Diethanolamine	CAS No	111-42-2	1 - < 10
Hydrocal 100	CAS No	64742-52-5	1 - < 10
Ethoxylated Alcohols	CAS No	68439-46-3	1 - < 10
Water	CAS No	7732-18-5	1 - < 10

acc. to 29 CFR 1910.1200 App D



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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 (CO2)

Unsuitable extinguishing media

Water jet

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products

Nitrogen oxides (NOx), 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.

acc. to 29 CFR 1910.1200 App D



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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. If substance has entered a water course or sewer, inform the responsible authority.

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. 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

- Packaging compatibilities

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used.

7.3 Specific end use(s)

See section 16 for a general overview.

acc. to 29 CFR 1910.1200 App D



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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 [ppm]	Ceiling-C [mg/m³]	Nota- tion	Source
US	ethanolamine	141-43-5	REL	3 (10 h)	8 (10 h)	6	15				NIOSH REL
US	ethanolamine	141-43-5	TLV®	3		6					ACGIH® 2024
US	ethanolamine	141-43-5	PEL	3	6						29 CFR 1910.10 00
US	ethanolamine (2- aminoethanol)	141-43-5	PEL (CA)	3	8	6	15				Cal/OSH A PEL
US	N-methyl- pyrrolidone (NMP) (1-methyl-2- pyrrolidone) (N- methyl-2- pyrrolidone)	872-50-4	PEL (CA)	1	4					Н	Cal/OSH A PEL

<u>Notation</u>

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

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 timeweighted average (unless otherwise specified

Biological limit values							
Country	Name of agent	Parameter	Notation	Identifier	Value	Source	
US	N-methyl-2-pyrrolidone	5-hydroxy-N-methyl-2- pyrrolidone		BEI®	100 mg/l	ACGIH® 2024	

Relevant DNELs of components							
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time	
NMP	872-50-4	DNEL	14.4 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic ef fects	
NMP	872-50-4	DNEL	40 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects	
NMP	872-50-4	DNEL	4.8 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic ef fects	
MONOETHANOLAM- INE 99%	141-43-5	DNEL	1 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic ef fects	
MONOETHANOLAM-	141-43-5	DNEL	0.51 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects	

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Relevant DNELs of components						
Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
INE 99%						
MONOETHANOLAM- INE 99%	141-43-5	DNEL	3 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic ef- fects
Ethoxylated Alcohols	68439-46-3	DNEL	294 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic ef- fects
Ethoxylated Alcohols	68439-46-3	DNEL	2,080 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic ef- fects
Diethanolamine	111-42-2	DNEL	0.75 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic ef- fects
Diethanolamine	111-42-2	DNEL	0.5 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
Diethanolamine	111-42-2	DNEL	0.13 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic ef- fects

Relevant PNECs of	t component	S				
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental com- partment	Exposure time
NMP	872-50-4	PNEC	0.25 ^{mg} / _l	aquatic organisms	freshwater	short-term (single ir stance)
NMP	872-50-4	PNEC	0.025 ^{mg} / _l	aquatic organisms	marine water	short-term (single ii stance)
NMP	872-50-4	PNEC	10 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single ir stance)
NMP	872-50-4	PNEC	1.09 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single ir stance)
NMP	872-50-4	PNEC	0.109 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single ii stance)
NMP	872-50-4	PNEC	0.07 ^{mg} / _{kg}	terrestrial organ- isms	soil	short-term (single ii stance)
MONOETHANOLAM- INE 99%	141-43-5	PNEC	0.07 ^{mg} / _l	aquatic organisms	freshwater	short-term (single ir stance)
MONOETHANOLAM- INE 99%	141-43-5	PNEC	0.007 ^{mg} / _l	aquatic organisms	marine water	short-term (single ir stance)
MONOETHANOLAM- INE 99%	141-43-5	PNEC	100 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single ir stance)
MONOETHANOLAM- INE 99%	141-43-5	PNEC	0.357 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single ir stance)
MONOETHANOLAM- INE 99%	141-43-5	PNEC	0.036 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single ir stance)
MONOETHANOLAM- INE 99%	141-43-5	PNEC	1.29 ^{mg} / _{kg}	terrestrial organ- isms	soil	short-term (single i stance)
Ethoxylated Alcohols	68439-46-3	PNEC	0.104 ^{mg} / _l	aquatic organisms	freshwater	short-term (single in stance)



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Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental com- partment	Exposure time
Ethoxylated Alcohols	68439-46-3	PNEC	0.104 ^{mg} / _l	aquatic organisms	marine water	short-term (single in- stance)
Ethoxylated Alcohols	68439-46-3	PNEC	1.4 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single in- stance)
Ethoxylated Alcohols	68439-46-3	PNEC	13.7 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single in- stance)
Ethoxylated Alcohols	68439-46-3	PNEC	13.7 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single in- stance)
Ethoxylated Alcohols	68439-46-3	PNEC	1 ^{mg} / _{kg}	terrestrial organ- isms	soil	short-term (single in- stance)
Diethanolamine	111-42-2	PNEC	0.021 ^{mg} / _l	aquatic organisms	freshwater	short-term (single in- stance)
Diethanolamine	111-42-2	PNEC	0.002 ^{mg} /l	aquatic organisms	marine water	short-term (single in- stance)
Diethanolamine	111-42-2	PNEC	100 ^{mg} / _l	aquatic organisms	sewage treatment plant (STP)	short-term (single in- stance)
Diethanolamine	111-42-2	PNEC	0.096 ^{mg} / _{kg}	aquatic organisms	freshwater sediment	short-term (single in- stance)
Diethanolamine	111-42-2	PNEC	0.009 ^{mg} / _{kg}	aquatic organisms	marine sediment	short-term (single in- stance)
Diethanolamine	111-42-2	PNEC	1.63 ^{mg} / _{kg}	terrestrial organ- isms	soil	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. 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.

Safety Data Sheet acc. to 29 CFR 1910.1200 App D



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SECTION 9: Physical and chemical properties

Information on basic physical and chemical properties 9.1

Appearance

Physical state	liquid	
Color	Clear water white to pale amber diphase liquid	
Particle	not relevant (liquid)	
Odor	characteristic	

Other safety parameters

pH (value)	not determined
Melting point/freezing point	25 °F
Initial boiling point and boiling range	212 °F
Flash point	>200 °F
Evaporation rate	not determined
Flammability (solid, gas)	not relevant, (fluid)
Vapor pressure	1 hPa at 108 °C
Density	8.33 ^{lb} / _{gal}
Vapor density	this information is not available
Solubility(ies)	not determined

Partition coefficient

- n-octanol/water (log KOW)	this information is not available
Auto-ignition temperature	251 °C
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

Other information 9.2

Liquid content	100 %
Solid content	0 %

acc. to 29 CFR 1910.1200 App D



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Temperature class (USA, acc. T2 to NEC 500)

T2C (maximum permissible surface temperature on the equipment: 230°C)

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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.

GHS of the United Nations, annex 4: May be harmful if swallowed or in contact with skin.

Acute toxicity estimate (ATE) of components			
Name of substance	CAS No	Exposure route	ATE
MONOETHANOLAMINE 99%	141-43-5	oral	1,089 ^{mg} / _{kg}
MONOETHANOLAMINE 99%	141-43-5	inhalation: vapor	11 ^{mg} / _l /4h
Hydrocal 100	64742-52-5	inhalation: vapor	11 ^{mg} / _l /4h
Hydrocal 100	64742-52-5	inhalation: dust/mist	2.18 ^{mg} / _ا /4h

Skin corrosion/irritation

Causes severe skin burns and eye damage.

Serious eye damage/eye irritation

Causes serious eye damage.

Respiratory or skin sensitization

Shall not be classified as a respiratory or skin sensitizer.

acc. to 29 CFR 1910.1200 App D



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Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Suspected of causing cancer.

Reproductive toxicity

May damage the unborn child. May damage fertility.

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Г

Toxic to aquatic life.

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
NMP	872-50-4	LC50	>500 ^{mg} / _l	fish	96 h
NMP	872-50-4	EC50	>1,000 ^{mg} / _l	aquatic invertebrates	24 h
NMP	872-50-4	ErC50	600.5 ^{mg} / _l	algae	72 h
MONOETHANOLAMINE 99%	141-43-5	LC50	349 ^{mg} / _l	fish	96 h
MONOETHANOLAMINE 99%	141-43-5	EC50	27.04 ^{mg} / _l	aquatic invertebrates	48 h
MONOETHANOLAMINE 99%	141-43-5	ErC50	2.8 ^{mg} / _l	algae	72 h
Ethoxylated Alcohols	68439-46-3	LC50	7 ^{mg} /l	fish	96 h
Ethoxylated Alcohols	68439-46-3	EC50	2.5 ^{mg} / _l	aquatic invertebrates	48 h
Diethanolamine	111-42-2	LC50	460 ^{mg} / _l	fish	96 h
Diethanolamine	111-42-2	EC50	30.1 ^{mg} / _l	aquatic invertebrates	48 h
Diethanolamine	111-42-2	ErC50	9.5 ^{mg} / _l	algae	72 h
Hydrocal 100	64742-52-5	LL50	>100 ^{mg} /l	fish	96 h
Hydrocal 100	64742-52-5	EL50	>10,000 ^{mg} / _l	aguatic invertebrates	24 h

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

acc. to 29 CFR 1910.1200 App D



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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

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

Only packagings which are approved (e.g. acc. to DOT) may be used. 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.

SECT	ECTION 14. Transport information				
14.1	UN number DOT	UN 3267			
14.2	UN proper shipping name				
	DOT	Corrosive liquid, basic, organic, n.o.s. (MONOETHANOLAMINE 99%)			
	Technical name (hazardous ingredients)	MONOETHANOLAMINE 99%			
14.3	Transport hazard class(es)				
	DOT	8			
14.4	Packing group				
	DOT	III			
14.5	Environmental hazards	non-environmentally hazardous acc. to the dangerous goods regula- tions			
14.6	Special precautions for user Do not handle until all safety precau	itions 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

Particulars in the shipper's declaration	UN3267, Corrosive liquid, basic, organic, n.o.s., 8, III
Danger label(s)	8

Danger label(s)





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Specia	l provisions (SP)	IB3, T7, TP1, TP28	
ERG N	0	153	
Intern	ational Maritime Dai	ngerous Goods Code (IMDG) - Additional info	rmation
Marine	e pollutant	-	
Dange	r label(s)	8	
A			
Specia	l provisions (SP)	274	
Except	ed quantities (EQ)	E2	
Limite	d quantities (LQ)	1 L	
EmS		F-A, S-B	
Stowag	ge category	A	
Segreg	gation group	18 - Alkalis	
Intern	ational Civil Aviation	Organization (ICAO-IATA/DGR) - Additional i	information
Dange	r label(s)	8	
Specia	l provisions (SP)	A3	
Except	ed quantities (EQ)	E2	
Limite	d quantities (LQ)	0,5 L	

SECTION 15: Regulatory information

Safety, health and environmental regulations specific for the product in question 15.1 **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			
NMP	872-50-4		1995-01-01

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

acc. to 29 CFR 1910.1200 App D



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Clean Air Act

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

Name of substance	CAS No	Remarks	Classifications
MONOETHANOLAMINE 99%	141-43-5		CO F2
NMP	872-50-4		TE F2

<u>Legend</u>

- CO Corrosive
- F2 Flammable Second Degree
- TE Teratogenic

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
N-methylpyrrolidone	872-50-4		developmental

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	3	major injury likely unless prompt action is taken and medical treatment is given
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



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Category	Degree of hazard	Description
Health	3	material that, under emergency conditions, can cause serious or permanent injury
Instability	0	material that is normally stable, even under fire conditions
Special hazard		

15.2 Chemical Safety Assessment

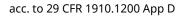
Chemical safety assessments for substances in this mixture were not carried out.

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

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 Sub- stances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH® 2024	From ACGIH®, 2024 TLVs® and BEIs® Book. Copyright 2024. Reprinted with permission. Information on the proper use of the TLVs® and BEIs®: http://www.acgih.org/tlv-bei-guidelines/policies-procedures-presenta-tions/tlv-bei-position-statement
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
DOT	Department of Transportation (USA)
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
EL50	Effective Loading 50 %: the EL50 corresponds to the loading rate required to produce a response in 50% of the test organisms
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
ERG No	Emergency Response Guidebook - Number
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations
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
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval







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Abbr.	Descriptions of used abbreviations	
LL50	Lethal Loading 50 %: the LL50 corresponds to the loading rate causing 50 % lethality	
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)	
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
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H335	May cause respiratory irritation.
H351	Suspected of causing cancer.
H360	May damage fertility or the unborn child.

Disclaimer

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