

Safety Data Sheet

V2505SS

Version number: 12.0
SDS Identifier: V2505SS

Revision: 2023-11-08

SECTION 1: Identification

1.1 Product identifier

SDS Identifier **V2505SS**
Catalog numbers R-2505, R-2505H, R-2505V

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

Relevant identified uses Components of water analysis test kits

1.3 Details of the supplier of the safety data sheet

AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover PA 17331
United States

Telephone: (717) 632-1291
e-mail: info@aquaphoenixsci.com
Website: <https://www.aquaphoenixsci.com/>

e-mail (competent person) scraig@aquaphoenixsci.com (Stephen Craig)

1.4 Emergency telephone number

Emergency information service ChemTel Inc.: 1-800-255-3924, +01-813-248-0585

SECTION 2: Hazard(s) identification

2.1 Classification of the substance or mixture

Classification acc. to GHS

Hazard class	Category	Hazard class and category	Hazard statement
acute toxicity (oral)	5	Acute Tox. 5	H303
skin corrosion/irritation	3	Skin Irrit. 3	H316
skin sensitization	1	Skin Sens. 1	H317
carcinogenicity	1A	Carc. 1A	H350
specific target organ toxicity - single exposure	2	STOT SE 2	H371

For full text of abbreviations: see SECTION 16.

The most important adverse physicochemical, human health and environmental effects

Immediate effects can be expected after short-term exposure.

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2.2 Label elements

Labeling

- Signal word danger

- Pictograms

GHS07, GHS08



- Hazard statements

H303 May be harmful if swallowed.
H316 Causes mild skin irritation.
H317 May cause an allergic skin reaction.
H350 May cause cancer.
H371 May cause damage to organs.

- Precautionary statements

P203 Obtain, read and follow all safety instructions before use.
P260 Do not breathe dust/fume/gas/mist/vapours/spray.
P270 Do not eat, drink or smoke when using this product.
P272 Contaminated work clothing should not be allowed out of the workplace.
P280 Wear protective gloves/protective clothing/eye protection/face protection/hearing protection/...
P301+P317 IF SWALLOWED: Get medical help.
P302+P352 IF ON SKIN: Wash with plenty of water.
P308+P311 IF exposed or concerned: Call a POISON CENTER/doctor.
P318 IF exposed or concerned, get medical advice.
P321 Specific treatment (see on this label).
P332+P317 If skin irritation occurs: Get medical help.
P333+P317 If skin irritation or rash occurs: Get medical help.
P362+P364 Take off contaminated clothing and wash it before reuse.
P405 Store locked up.
P501 Dispose of contents/container to industrial combustion plant.

- Hazardous ingredients for labelling

formaldehyde, methanol, sodium borohydride,
EDTA disodium salt, n,n-diethyl-p-phenylenediam-
ine oxalic acid salt (DPD)

2.3 Other hazards

Results of PBT and vPvB assessment

Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

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Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.














SECTION 3: Composition/information on ingredients

3.1 Substances

Not relevant (mixture)

3.2 Mixtures

Description of the mixture



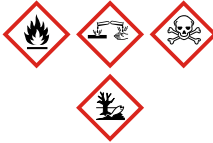
Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
deionized water	CAS No 7732-18-5	≥ 90		
potassium phosphate mono-basic	CAS No 7778-77-0	2 – 4	Acute Tox. 5 / H313 Acute Tox. 3 / H331	
methanol	CAS No 67-56-1	3	Flam. Liq. 2 / H225 Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370	  
EDTA disodium salt	CAS No 139-33-3	≤ 1	Acute Tox. 5 / H303 Acute Tox. 4 / H332 STOT RE 2 / H373 Aquatic Acute 3 / H402	 
sulfuric acid	CAS No 7664-93-9	0.37 – 0.74	Acute Tox. 5 / H303 Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 Carc. 1A / H350 Aquatic Acute 3 / H402 Aquatic Chronic 2 / H411	   
formaldehyde	CAS No 50-00-0	0.1 – 0.2	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Skin Sens. 1 / H317 Muta. 2 / H341 Carc. 1A / H350 STOT SE 3 / H335 Aquatic Acute 2 / H401	  

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Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
sodium borohydride	CAS No 16940-66-2	≤ 0.1	Water-react. 1 / H260 Acute Tox. 3 / H301 Acute Tox. 5 / H313 Acute Tox. 4 / H332 Skin Corr. 1C / H314 Eye Dam. 1 / H318 Repr. 1B / H360F Aquatic Acute 3 / H402 Aquatic Chronic 3 / H412	
n,n-diethyl-p-phenylene-diamine oxalic acid salt (DPD)	CAS No 62637-92-7	≤ 0.1	Skin Sens. 1 / H317 Muta. 2 / H341 Aquatic Acute 2 / H401 Aquatic Chronic 2 / H411	
sodium cyanoborohydride	CAS No 25895-60-7	≤ 0.03	Water-react. 1 / H260 Acute Tox. 2 / H300 Acute Tox. 2 / H310 Acute Tox. 2 / H330 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Aquatic Acute 1 / H400 Aquatic Chronic 1 / H410	
d-iso-ascorbic acid sodium salt	CAS No 89-65-6	≤ 0.008	Aquatic Acute 3 / H402	

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.

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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, Alcohol resistant foam, 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 (NO_x)

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

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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

Wear impact- and splash-resistant eyewear. Break the ampoule tip only when it is completely immersed in sample. Breaking the tip in air may cause the glass ampoule to shatter.

- 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

heat, high temperatures, light, UV-radiation/sunlight

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 ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	formaldehyde	50-00-0	PEL (CA)	0.75		2					Cal/ OSHA PEL
US	formaldehyde	50-00-0	TLV®	0.1		0.3					ACGIH® 2023

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Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m ³]	STEL [ppm]	STEL [mg/m ³]	Ceiling-C [ppm]	Ceiling-C [mg/m ³]	Notation	Source
US	formaldehyde	50-00-0	PEL	0.75		2					29 CFR 1910.1000
US	formaldehyde	50-00-0	REL	0.016 (10 h)				0.1 (15 min)		appx-A	NIOSH REL
US	formalin	50-00-0	REL	0.016 (10 h)				0.1 (15 min)		HCHO, appx-A	NIOSH REL
US	methanol	67-56-1	TLV®	200		250				H	ACGIH® 2023
US	methyl alcohol	67-56-1	REL	200 (10 h)	260 (10 h)	250	325				NIOSH REL
US	methyl alcohol	67-56-1	PEL	200	260						29 CFR 1910.1000
US	methyl alcohol (methanol)	67-56-1	PEL (CA)	200	260	250	325	1,000			Ca/ OSHA PEL
US	sulfuric acid	7664-93-9	PEL (CA)		0.1		3				Ca/ OSHA PEL
US	sulfuric acid	7664-93-9	REL		1 (10 h)						NIOSH REL
US	sulfuric acid	7664-93-9	PEL		1						29 CFR 1910.1000
US	sulfuric acid	7664-93-9	TLV®		0.2					t	ACGIH® 2023

Notation

appx-A	NIOSH Potential Occupational Carcinogen (Appendix A)
Ceiling-C	ceiling value is a limit value above which exposure should not occur
H	absorbed through the skin
HCHO	calculated as HCHO (formaldehyde)
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)
t	thoracic fraction
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)

Biological limit values

Country	Name of agent	Parameter	Notation	Identifier	Value	Source
US	methanol	methanol		BEI®	15 mg/l	ACGIH® 2023

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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
potassium phosphate monobasic	7778-77-0	DNEL	14.82 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
methanol	67-56-1	DNEL	130 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
methanol	67-56-1	DNEL	130 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
methanol	67-56-1	DNEL	130 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
methanol	67-56-1	DNEL	130 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
methanol	67-56-1	DNEL	20 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
methanol	67-56-1	DNEL	20 mg/kg bw/day	human, dermal	worker (industry)	acute - systemic effects
EDTA disodium salt	139-33-3	DNEL	1.5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
EDTA disodium salt	139-33-3	DNEL	3 mg/m ³	human, inhalatory	worker (industry)	acute - systemic effects
EDTA disodium salt	139-33-3	DNEL	1.5 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
EDTA disodium salt	139-33-3	DNEL	3 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
sulfuric acid	7664-93-9	DNEL	0.05 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
sulfuric acid	7664-93-9	DNEL	0.1 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
formaldehyde	50-00-0	DNEL	9 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
formaldehyde	50-00-0	DNEL	0.375 mg/m ³	human, inhalatory	worker (industry)	chronic - local effects
formaldehyde	50-00-0	DNEL	0.75 mg/m ³	human, inhalatory	worker (industry)	acute - local effects
formaldehyde	50-00-0	DNEL	240 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects
formaldehyde	50-00-0	DNEL	37 µg/cm ²	human, dermal	worker (industry)	chronic - local effects
d-iso-ascorbic acid sodium salt	89-65-6	DNEL	70.5 mg/m ³	human, inhalatory	worker (industry)	chronic - systemic effects
d-iso-ascorbic acid sodium salt	89-65-6	DNEL	10 mg/kg bw/day	human, dermal	worker (industry)	chronic - systemic effects

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Relevant PNECs of components						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
methanol	67-56-1	PNEC	20.8 mg/l	aquatic organisms	freshwater	short-term (single instance)
methanol	67-56-1	PNEC	2.08 mg/l	aquatic organisms	marine water	short-term (single instance)
methanol	67-56-1	PNEC	100 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
methanol	67-56-1	PNEC	77 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
methanol	67-56-1	PNEC	7.7 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
methanol	67-56-1	PNEC	100 mg/kg	terrestrial organisms	soil	short-term (single instance)
EDTA disodium salt	139-33-3	PNEC	2.5 mg/l	aquatic organisms	freshwater	short-term (single instance)
EDTA disodium salt	139-33-3	PNEC	0.25 mg/l	aquatic organisms	marine water	short-term (single instance)
EDTA disodium salt	139-33-3	PNEC	50 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
EDTA disodium salt	139-33-3	PNEC	1.1 mg/kg	terrestrial organisms	soil	short-term (single instance)
sulfuric acid	7664-93-9	PNEC	0.003 mg/l	aquatic organisms	freshwater	short-term (single instance)
sulfuric acid	7664-93-9	PNEC	0 mg/l	aquatic organisms	marine water	short-term (single instance)
sulfuric acid	7664-93-9	PNEC	8.8 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
sulfuric acid	7664-93-9	PNEC	0.002 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
sulfuric acid	7664-93-9	PNEC	0.002 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
formaldehyde	50-00-0	PNEC	0.44 mg/l	aquatic organisms	freshwater	short-term (single instance)
formaldehyde	50-00-0	PNEC	0.44 mg/l	aquatic organisms	marine water	short-term (single instance)
formaldehyde	50-00-0	PNEC	0.19 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
formaldehyde	50-00-0	PNEC	2.3 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)

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Relevant PNECs of components						
Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
formaldehyde	50-00-0	PNEC	2.3 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
formaldehyde	50-00-0	PNEC	0.2 mg/kg	terrestrial organisms	soil	short-term (single instance)
sodium borohydride	16940-66-2	PNEC	1.75 mg/l	aquatic organisms	freshwater	short-term (single instance)
sodium borohydride	16940-66-2	PNEC	1.75 mg/l	aquatic organisms	marine water	short-term (single instance)
sodium borohydride	16940-66-2	PNEC	54.77 mg/l	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
sodium borohydride	16940-66-2	PNEC	2.55 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
sodium borohydride	16940-66-2	PNEC	0.255 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
sodium borohydride	16940-66-2	PNEC	4.8 mg/kg	terrestrial organisms	soil	short-term (single instance)
d-iso-ascorbic acid sodium salt	89-65-6	PNEC	0.09 mg/l	aquatic organisms	freshwater	short-term (single instance)
d-iso-ascorbic acid sodium salt	89-65-6	PNEC	0.009 mg/l	aquatic organisms	marine water	short-term (single instance)
d-iso-ascorbic acid sodium salt	89-65-6	PNEC	0.333 mg/kg	aquatic organisms	freshwater sediment	short-term (single instance)
d-iso-ascorbic acid sodium salt	89-65-6	PNEC	0.033 mg/kg	aquatic organisms	marine sediment	short-term (single instance)
d-iso-ascorbic acid sodium salt	89-65-6	PNEC	0.01 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

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

Product description: Each CHEMet™ or VACUette™ ampoule is a 7 mm glass ampoule containing approximately 0.2 - 1.2 mL of liquid reagent sealed under vacuum.

Physical state	liquid
Color	colorless
Odor	odorless
Melting point/freezing point	0 °C
Boiling point or initial boiling point and boiling range	64.7 °C at 1,013 hPa
Evaporation rate	not determined
Flammability	this material is combustible, but will not ignite readily
Lower and upper explosion limit	not determined
Flash point	not determined
Auto-ignition temperature	455 °C (auto-ignition temperature (liquids and gases))
Decomposition temperature	not relevant

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pH (value)	4
Kinematic viscosity	not determined

Solubility(ies)

Water solubility	miscible in any proportion
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Partition coefficient

Partition coefficient n-octanol/water (log value)	this information is not available
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Vapor pressure	169.3 hPa at 25 °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 (water = 1)

Particle characteristics	not relevant (liquid)
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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

There is no additional information.

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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

May be harmful if swallowed.

- Acute toxicity estimate (ATE)

Oral 2,930 mg/kg

Acute toxicity estimate (ATE) of components

Name of substance	CAS No	Exposure route	ATE
potassium phosphate monobasic	7778-77-0	dermal	>2,000 mg/kg
potassium phosphate monobasic	7778-77-0	inhalation: dust/mist	>0.83 mg/l/4h
methanol	67-56-1	oral	100 mg/kg
methanol	67-56-1	dermal	300 mg/kg
methanol	67-56-1	inhalation: vapor	3 mg/l/4h
EDTA disodium salt	139-33-3	oral	2,800 mg/kg
EDTA disodium salt	139-33-3	inhalation: dust/mist	1.5 mg/l/4h
sulfuric acid	7664-93-9	oral	2,140 mg/kg
sulfuric acid	7664-93-9	inhalation: vapor	3 mg/l/4h
sulfuric acid	7664-93-9	inhalation: dust/mist	0.85 mg/l/4h
formaldehyde	50-00-0	oral	100 mg/kg
formaldehyde	50-00-0	dermal	300 mg/kg
formaldehyde	50-00-0	inhalation: vapor	3 mg/l/4h
sodium borohydride	16940-66-2	oral	56.57 mg/kg

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Acute toxicity estimate (ATE) of components

Name of substance	CAS No	Exposure route	ATE
sodium borohydride	16940-66-2	dermal	≥4,000 mg/kg
sodium borohydride	16940-66-2	inhalation: dust/mist	>1.295 mg/l/4h
sodium cyanoborohydride	25895-60-7	oral	5 mg/kg
sodium cyanoborohydride	25895-60-7	dermal	50 mg/kg
sodium cyanoborohydride	25895-60-7	inhalation: dust/mist	0.05 mg/l/4h

Skin corrosion/irritation

Causes mild skin irritation.

Serious eye damage/eye irritation

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

Respiratory or skin sensitization

May cause an allergic skin reaction.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

May cause cancer.

IARC Monographs on the Evaluation of Carcinogenic Risks to Humans

Name of substance	CAS No	Classification	Number
sulfuric acid	7664-93-9	1	
formaldehyde	50-00-0	1	

Legend

1 Carcinogenic to humans

National Toxicology Program (United States): Report on Carcinogens

Name of substance	CAS No	Classification	Number
sulfuric acid	7664-93-9	Known to be a human carcinogen	9th Report on Carcinogens
formaldehyde	50-00-0	Known to be a human carcinogen	12th Report on Carcinogens

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29 CFR 1910/1915/1926 Occupational Safety and Health Standards: Toxic and Hazardous Substances (carcinogens)

Name of substance	CAS No	Type of registration
formaldehyde	50-00-0	GI §1910.1048, SE §1915.1048, CI §1926.1148

Legend

CI §1926.1148 Construction Industry (29 CFR 1926.1148)
GI §1910.1048 General Industry (29 CFR 1910.1048)
SE §1915.1048 Shipyard Employment (29 CFR 1915.1048)

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

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

Aspiration hazard

Shall not be classified as presenting an aspiration hazard.

11.2 Information on other hazards

There is no additional information.

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

According to the results of its assessment, this substance is not a PBT or a vPvB. Does not contain a PBT-/vPvB-substance in a concentration of $\geq 0.1\%$.

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12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) in a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

Data are not available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Please consider the relevant national or regional provisions.

SECTION 14: Transport information

- | | |
|---|---|
| 14.1 UN number | not subject to transport regulations |
| 14.2 UN proper shipping name | not relevant |
| 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 Other relevant information | Shipping container markings and labels, received from CHEMetrics, may vary from the above information. Products that are regulated for transport will be packaged by CHEMetrics as Dangerous Goods in Excepted Quantities according to IATA, US DOT, and IMDG regulations. CHEMetrics may also elect to ship certain products as UN 3316 Chemical Kit, Hazard Class 9, Packing Group II or III. In case of reshipment, it is the responsibility of the shipper to determine appropriate labels and markings in accordance with applicable transportation regulations. |
| 14.7 Maritime transport in bulk according to IMO instruments | 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.

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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)

The List of Extremely Hazardous Substances and Their Threshold Planning Quantities			
Name of substance	Notes	Reportable quantity (pounds)	Threshold planning quantity (pounds)
sulfuric acid		1,000	1000
formaldehyde	f	100	500

Legend

f Chemical on the original list that does not meet toxicity criteria but because of its acute lethality, high production volume and known risk is considered chemical of concern ("Other chemicals"). (November 17, 1986, and February 15, 1990.)

- Specific Toxic Chemical Listings (EPCRA Section 313)

Toxics Release Inventory: Specific Toxic Chemical Listings		
Name of substance	Remarks	Effective date
sulfuric acid	acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size	1986-12-31
methanol		1986-12-31
formaldehyde		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	Remarks	Statutory code	Final RQ pounds (Kg)
sulfuric acid		1	1000 (454)
methanol		3 4	5000 (2270)

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Name of substance	Remarks	Statutory code	Final RQ pounds (Kg)
formaldehyde		1 3 4	100 (45,4)

Legend

- 1 "1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act
- 3 "3" indicates that the source is section 112 of the Clean Air Act
- 4 "4" indicates that the source is section 3001 of the Resource Conservation and Recovery Act (RCRA)

Clean Air Act

Name of substance	Type of registration	Basis for listing	Threshold quantity (lbs)
formaldehyde	Toxic substance	b	15000

Legend

- b On EHS list, vapor pressure 10 mmHg or greater.

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

Name of substance	Remarks	Classifications
sulfuric acid		CA CO R2
methanol		TE F3
formaldehyde		CA CO MU F4
sodium borohydride		R1

Legend

- CA Carcinogenic
- CO Corrosive
- F3 Flammable - Third Degree
- F4 Flammable - Fourth Degree
- MU Mutagenic
- R1 Reactive - First Degree
- R2 Reactive - Second Degree
- TE Teratogenic

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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	Remarks	Type of the toxicity
methanol		developmental
formaldehyde	gas	cancer

National inventories

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

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
NCI	National Chemical Inventory

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Legend

NDSL	Non-domestic Substances List (NDSL)
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.

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 Substances (permissible exposure limits)
49 CFR US DOT	49 CFR U.S. Department of Transportation
ACGIH® 2023	From ACGIH®, 2023 TLVs® and BEIs® Book. Copyright 2023. 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
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)
Carc.	Carcinogenicity
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
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
Eye Dam.	Seriously damaging to the eye
Eye Irrit.	Irritant to the eye
Flam. Liq.	Flammable liquid

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Abbr.	Descriptions of used abbreviations
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
Muta.	Germ cell mutagenicity
NIOSH REL	National Institute for Occupational Safety and Health (NIOSH): Recommended Exposure Limits (RELs)
NLP	No-Longer Polymer
OSHA	Occupational Safety and Health Administration (United States)
PBT	Persistent, Bioaccumulative and Toxic
PEL	Permissible exposure limit
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
Skin Sens.	Skin sensitization
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
Water-react.	Material which, in contact with water, emits flammable gases

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).

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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
H225	Highly flammable liquid and vapour.
H260	In contact with water releases flammable gases which may ignite spontaneously.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H303	May be harmful if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H313	May be harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H316	Causes mild skin irritation.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H341	Suspected of causing genetic defects.
H350	May cause cancer.
H360F	May damage fertility.
H370	Causes damage to organs.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.
H400	Very toxic to aquatic life.
H401	Toxic to aquatic life.
H402	Harmful to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.



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Code	Text
H411	Toxic to aquatic life with long lasting effects.
H412	Harmful 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.