Safety Data Sheet

Version number: 10.1
SDS# R2505

2020-06-11

SECTION 1: Identification

1.1 Product identifier

Trade name **R-2505, R-2505V, R-2511**

Other means of identification Chlorine CHEMets® & ULR CHEMets® Refills

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

Component of water analysis test kits: K-2505, K-2505V, K-2511

1.3 Details of the supplier of the safety data sheet

CHEMetrics, Inc.
4295 Catlett Road
Midland VA 22728
United States

Telephone: 1-540-788-9026
Telefax: 1-540-788-4856
e-mail: technical@chemetrics.com
Website: www.chemetrics.com

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 OSHA "Hazard Communication Standard" (29 CFR 1910.1200)

Section	Hazard class	Category	Hazard class and category	Hazard statement
A.4S	skin sensitization	1	Skin Sens. 1	H317
A.6	carcinogenicity	1A	Carc. 1A	H350
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

For full text of abbreviations: see SECTION 16.

2.2 Label elements

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

- Signal word danger

- Pictograms

GHS07, GHS08

- Hazard statements

H317	May cause an allergic skin reaction.
H350	May cause cancer.
H371	May cause damage to organs.
H373	May cause damage to organs through prolonged or repeated exposure.

- Precautionary statements

P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P270	Do not eat, drink or smoke when using this product.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P302+P352	If on skin: Wash with plenty of water.
P308+P311	If exposed or concerned: Call a poison center/doctor.
P308+P313	If exposed or concerned: Get medical advice/attention.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see on this label).
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/container to industrial combustion plant.

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
water	CAS No 7732-18-5	≥ 90		
Potassium phosphate mono-basic	CAS No 7778-77-0	2 – 4	Acute Tox. 3 / H331	
methanol	CAS No 67-56-1	3	Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370 Flam. Liq. 2 / H225	
EDTA disodium salt di-hydrate	CAS No 6381-92-6 139-33-3	≤ 1	Acute Tox. 4 / H332 STOT RE 2 / H373	

Name of substance	Identifier	Wt%	Classification acc. to GHS	Pictograms
sulfuric acid	CAS No 7664-93-9	0.37 – 0.74	Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 Carc. 1A / H350	
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	
N,N-Diethyl-p-Phenylene-diamine Oxalic Acid Salt (DPD)	CAS No 62637-92-7	≤ 0.1	Skin Sens. 1 / H317 Muta. 2 / H341	
sodium borohydride	CAS No 16940-66-2	≤ 0.1	Acute Tox. 3 / H301 Acute Tox. 4 / H332 Skin Corr. 1C / H314 Eye Dam. 1 / H318 Repr. 1B / H360F Water-react. 1 / H260	
Sodium Cyanoborohydride	CAS No 25895-60-7	≤ 0.03	Acute Tox. 2 / H300 Acute Tox. 2 / H310 Acute Tox. 2 / H330 Skin Corr. 1B / H314 Eye Dam. 1 / H318 Flam. Sol. 2 / H228 Water-react. 2 / H261	
D-iso-Ascorbic Acid Sodium Salt	CAS No 89-65-6	≤ 0.008		

For full text of abbreviations: see SECTION 16.

SECTION 4: First-aid measures

4.1 Description of first- aid measures

General notes

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

Following inhalation

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

Following skin contact

Wash with plenty of soap and water.

Following eye contact

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

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.

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 (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.

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

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

7.3 Other information

For optimum analytical performance, store in the dark and at room temperature.

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/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	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® 2019
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					ACGIH® 2019
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			Cal/OSHA PEL

Occupational exposure limit values (Workplace Exposure Limits)

Country	Name of agent	CAS No	Identifier	TWA [ppm]	TWA [mg/m³]	STEL [ppm]	STEL [mg/m³]	Ceiling-C [ppm]	Ceiling-C [mg/m³]	Notation	Source
US	sulfuric acid	7664-93-9	PEL (CA)		0.1		3				Cal/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® 2019

Notation

appx-A	NIOSH Potential Occupational Carcinogen (Appendix A)
Ceiling-C	ceiling value is a limit value above which exposure should not occur
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® 2019

Relevant DNELs of components of the mixture

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/m³	human, inhalatory	worker (industry)	chronic - systemic effects
methanol	67-56-1	DNEL	130 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
methanol	67-56-1	DNEL	130 mg/m³	human, inhalatory	worker (industry)	acute - systemic effects
methanol	67-56-1	DNEL	130 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
methanol	67-56-1	DNEL	130 mg/m³	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 dihydrate	6381-92-6 139-33-3	DNEL	1.5 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
EDTA disodium salt dihydrate	6381-92-6 139-33-3	DNEL	3 mg/m³	human, inhalatory	worker (industry)	acute - local effects

Relevant DNELs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Protection goal, route of exposure	Used in	Exposure time
sulfuric acid	7664-93-9	DNEL	0.05 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
sulfuric acid	7664-93-9	DNEL	0.1 mg/m³	human, inhalatory	worker (industry)	acute - local effects
formaldehyde	50-00-0	DNEL	9 mg/m³	human, inhalatory	worker (industry)	chronic - systemic effects
formaldehyde	50-00-0	DNEL	0.375 mg/m³	human, inhalatory	worker (industry)	chronic - local effects
formaldehyde	50-00-0	DNEL	0.75 mg/m³	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/cm²	human, dermal	worker (industry)	chronic - local effects
D-iso-Ascorbic Acid Sodium Salt	89-65-6	DNEL	70.5 mg/m³	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

Relevant PNECs of components of the mixture

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 dihydrate	6381-92-6 139-33-3	PNEC	2.2 $^{mg}/_{l}$	aquatic organisms	freshwater	short-term (single instance)
EDTA disodium salt dihydrate	6381-92-6 139-33-3	PNEC	0.22 $^{mg}/_{l}$	aquatic organisms	marine water	short-term (single instance)
EDTA disodium salt dihydrate	6381-92-6 139-33-3	PNEC	43 $^{mg}/_{l}$	aquatic organisms	sewage treatment plant (STP)	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)

Relevant PNECs of components of the mixture

Name of substance	CAS No	Endpoint	Threshold level	Organism	Environmental compartment	Exposure time
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)
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.

Skin protection

- Hand protection

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

- Other protection measures

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

Respiratory protection

In case of inadequate ventilation wear respiratory protection.

Environmental exposure controls

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Product description

CHEMets: Sealed glass ampoules, 7 mm OD, for visual colorimetric water analysis.
Each CHEMet™ ampoule contains approximately 0.2 - 0.5 mL of liquid reagent sealed under vacuum. Refills contain 30 ampoules, test kits contain 1 refill.
-OR-.
ULR CHEMets: Sealed glass ampoules, 250 mm length, for visual colorimetric water analysis. Each ULR CHEMet™ ampoule contains approximately 1 mL of liquid reagent sealed under vacuum. Refills contain 30 ampoules, test kits contain 1 refill.

Appearance

Physical state	liquid
Color	colorless
Odor	odorless

Other safety parameters

pH (value)	4
Melting point/freezing point	0 °C
Initial boiling point and boiling range	64.7 °C at 1,013 hPa
Flash point	not determined
Evaporation rate	not determined

Flammability (solid, gas)	not relevant, (fluid)
Explosive limits	not determined
Vapor pressure	169.3 hPa at 25 °C
Density	not determined
Vapor density	this information is not available
Relative density	1 (water = 1)

Solubility(ies)

- Water solubility	miscible in any proportion

Partition coefficient

- n-octanol/water (log KOW)	this information is not available

Auto-ignition temperature	455 °C (auto-ignition temperature (liquids and gases))
Viscosity	not determined
Explosive properties	none
Oxidizing properties	none

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.

Acute toxicity estimate (ATE) of components of the mixture

Name of substance	CAS No	Exposure route	ATE
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 dihydrate	6381-92-6 139-33-3	inhalation: dust/mist	1.5 $^{mg}/_{l}$/4h
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 $^{mg}/_{kg}$
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

Shall not be classified as corrosive/irritant to skin.

Serious eye damage/eye irritation

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

Respiratory or skin sensitization

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

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)§us_oshacarc_1_2017
GI §1910.1048	General Industry (29 CFR 1910.1048)§us_oshacarc_1_2017
SE §1915.1048	Shipyard Employment (29 CFR 1915.1048)§us_oshacarc_1_2017

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

Shall not be classified as presenting an aspiration hazard.

SECTION 12: Ecological information

12.1 Toxicity

Harmful to aquatic life with long lasting effects.

Aquatic toxicity (acute) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Potassium phosphate monobasic	7778-77-0	LC50	>100 mg/l	fish	96 h
Potassium phosphate monobasic	7778-77-0	EC50	>100 mg/l	aquatic invertebrates	48 h
Potassium phosphate monobasic	7778-77-0	ErC50	>100 mg/l	algae	72 h
methanol	67-56-1	LC50	15,400 mg/l	fish	96 h
methanol	67-56-1	EC50	12,700 mg/l	fish	96 h
methanol	67-56-1	ErC50	22,000 mg/l	algae	96 h
EDTA disodium salt dihydrate	6381-92-6 139-33-3	LC50	41 mg/l	fish	96 h
EDTA disodium salt dihydrate	6381-92-6 139-33-3	EC50	610 mg/l	aquatic invertebrates	24 h
sulfuric acid	7664-93-9	EC50	>100 mg/l	aquatic invertebrates	48 h
sulfuric acid	7664-93-9	ErC50	>100 mg/l	algae	72 h
formaldehyde	50-00-0	LC50	31.8 mg/l	fish	24 h
formaldehyde	50-00-0	EC50	5.8 mg/l	aquatic invertebrates	48 h
formaldehyde	50-00-0	ErC50	4.89 mg/l	algae	72 h
N,N-Diethyl-p-Phenylenediamine Oxalic Acid Salt (DPD)	62637-92-7	LC50	16.05 mg/l	fish	96 h
N,N-Diethyl-p-Phenylenediamine Oxalic Acid Salt (DPD)	62637-92-7	LC50	1.168 mg/l	crustacean	48 h
N,N-Diethyl-p-Phenylenediamine Oxalic Acid Salt (DPD)	62637-92-7	EC50	1.642 mg/l	algae	96 h
sodium borohydride	16940-66-2	LC50	74 mg/l	fish	96 h
D-iso-Ascorbic Acid Sodium Salt	89-65-6	LC50	>1,000 mg/l	fish	96 h
D-iso-Ascorbic Acid Sodium Salt	89-65-6	EC50	86.2 mg/l	algae	96 h

Aquatic toxicity (chronic) of components of the mixture

Name of substance	CAS No	Endpoint	Value	Species	Exposure time
Potassium phosphate monobasic	7778-77-0	EC50	>1,000 $^{mg}/_{l}$	microorganisms	3 h
EDTA disodium salt di-hydrate	6381-92-6 139-33-3	EC50	>500 $^{mg}/_{l}$	microorganisms	30 min
formaldehyde	50-00-0	EC50	19 $^{mg}/_{l}$	microorganisms	3 h

12.2 Persistence and degradability

Data are not available.

12.3 Bioaccumulative potential

Data are not available.

12.4 Mobility in soil

Data are not available.

12.5 Results of PBT and vPvB assessment

Data are not available.

12.6 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

14.3 Transport hazard class(es) — not assigned

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 for this product, as received, may vary from the contents of section 14 of the SDS for one or both of the following reasons:
•CHEMetrics has packaged this product as Dangerous Goods in Excepted Quantities according to IATA, US DOT, and IMDG regulations.
•CHEMetrics has packaged this product as part of a test kit or reagent set composed of various chemical reagents and elected to ship 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 Transport in bulk according to Annex II of MARPOL and the IBC Code

The cargo is not intended to be carried in bulk.

Information for each of the UN Model Regulations

Transport of dangerous goods by road or rail (49 CFR US DOT)

Not subject to transport regulations.

International Maritime Dangerous Goods Code (IMDG)

Not subject to IMDG.

International Civil Aviation Organization (ICAO-IATA/DGR)

Not subject to ICAO-IATA.

SECTION 15: Regulatory information

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

National regulations (United States)

Toxic Substance Control Act (TSCA) all ingredients are listed

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	CAS No	Notes	Reportable quantity (pounds)	Threshold planning quantity (pounds)
sulfuric acid	7664-93-9		1,000	1000
formaldehyde	50-00-0	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	CAS No	Remarks	Effective date
sulfuric acid	7664-93-9	acid aerosols including mists, vapors, gas, fog, and other airborne forms of any particle size	1986-12-31
methanol	67-56-1		1986-12-31
formaldehyde	50-00-0		1986-12-31

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

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

Name of substance	CAS No	Remarks	Statutory code	Final RQ pounds (Kg)
sulfuric acid	7664-93-9		1	1000 (454)
methanol	67-56-1		3 4	5000 (2270)
formaldehyde	50-00-0		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	CAS No	Type of registration	Basis for listing	Threshold quantity (lbs)
formaldehyde	50-00-0	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	CAS No	Remarks	Classifications
sulfuric acid	7664-93-9		CA CO R2
methanol	67-56-1		TE F3
formaldehyde	50-00-0		CA CO MU F4
sodium borohydride	16940-66-2		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

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
methanol	67-56-1		developmental
formaldehyde	50-00-0	gas	cancer

VOC content

Regulated Volatile Organic Compounds (VOC-EPA): Regulated Volatile Organic Compounds (VOC-Cal ARB):

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	1	material that must be preheated before ignition can occur
Physical hazard	0	material that is normally stable, even under fire conditions, and will not react with water, polymerize, decompose, condense, or self-react. Non-explosive
Personal protection	-	

NFPA® 704

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

Category	Degree of hazard	Description
Flammability	1	material that must be preheated before ignition can occur
Health	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
US	TSCA	all ingredients are listed

Legend
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

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 chapter 2 and 3)

Code	Text
H225	Highly flammable liquid and vapor.
H228	Flammable solid.
H260	In contact with water releases flammable gases, which may ignite spontaneously.
H261	In contact with water releases flammable gas.
H300	Fatal if swallowed.
H301	Toxic if swallowed.
H310	Fatal in contact with skin.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
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.

Disclaimer

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