

Safety Data Sheet

Version number: 10.4 SDS# R5510

SECTION 1: Identification

1.1 Product identifier

Trade name

Other means of identification

R-5510, R-5510A, R-5510B, R5510C, R-5510D, K-5543 Ampoules, R-7870

Hydrogen Peroxide CHEMets® & VACUettes® Refills and Vacu-vials® Ampoules, Sodium Persulfate CHEMets® Refill

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

Component of water analysis test kits:

K-5510, K-5510A, K-5510B, K-5510C, K-5510D, K-5543, K-7870

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 cat- egory | Hazard state- ment |
|---------|---|----------|--------------------------------|-----------------------|
| 3.2 | skin corrosion/irritation | 1 | Skin Corr. 1 | H314 |
| 3.3 | serious eye damage/eye irritation | 1 | Eye Dam. 1 | H318 |
| 4.1A | hazardous to the aquatic environment - acute hazard | 3 | Aquatic Acute 3 | H402 |

For full text of abbreviations: see SECTION 16.

2.2 Label elements

R-5510, R-5510A, R-5510B, R5510C, R-5510D, K-5543 Ampoules, R-7870

2020-11-11

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

- Signal word danger
- Pictograms

GHS05



| - Hazard statements | |
|-----------------------|--|
| H314 | Causes severe skin burns and eye damage. |
| H402 | Harmful to aquatic life. |
| - Precautionary state | ments |
| P260 | Do not breathe dusts or mists. |
| P273 | Avoid release to the environment. |
| 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 or 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. |
| 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 | ≥88 | | |
| Acetic acid | CAS No 64-19-7 | 5 | Skin Corr. 1A / H314 Eye Dam. 1 / H318 Flam. Liq. 3 / H226 | |
| Ammonium thiocyanate | CAS No 1762-95-4 | 3 | Acute Tox. 4 / H302 Acute Tox. 4 / H312 Acute Tox. 4 / H332 | () |
| methanol | CAS No 67-56-1 | < 0.1 | Acute Tox. 3 / H301 Acute Tox. 3 / H311 Acute Tox. 3 / H331 STOT SE 1 / H370 Flam. Liq. 2 / H225 | |

| Name of substance | Identifier | Wt% | Classification acc. to GHS | Pictograms |
|--------------------------|---------------------|--------|---|------------|
| ammonium ferrous sulfate | CAS No 7783-85-9 | < 0.1 | Skin Irrit. 2 / H315 Eye Irrit. 2 / H319 STOT SE 3 / H335 | () |
| sulfuric acid | CAS No 7664-93-9 | < 0.1 | Acute Tox. 3 / H331 Skin Corr. 1A / H314 Eye Dam. 1 / H318 Carc. 1A / H350 | |
| Carbohydrazide | CAS No 497-18-7 | < 0.01 | Acute Tox. 4 / H302 Skin Irrit. 2 / H315 Skin Sens. 1B / H317 | () |

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.

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.

- Handling of incompatible substances or mixtures
- Keep away from

Caustic solutions

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) | | | | | | | | | | | |
|--|------------------------------|-----------|-----------------|---------------|----------------|---------------|-----------------|--------------------|----------------------|---------------|-------------------------|
| 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 | acetic acid | 64-19-7 | PEL (CA) | 10 | 25 | 15 | 37 | 40 | | | Cal/ OSHA PEL |
| US | acetic acid | 64-19-7 | REL | 10 (10 h) | 25 (10 h) | 15 | 37 | | | | NIOSH REL |
| US | acetic acid | 64-19-7 | TLV® | 10 | | 15 | | | | | ACGIH® 2019 |
| US | acetic acid | 64-19-7 | PEL | 10 | 25 | | | | | | 29 CFR 1910.100 0 |
| 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 1910.100 0 |
| US | methyl alcohol (methanol) | 67-56-1 | PEL (CA) | 200 | 260 | 250 | 325 | 1,000 | | | Cal/ OSHA PEL |
| 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 1910.100 0 |
| US | sulfuric acid | 7664-93-9 | TLV® | | 0.2 | | | | | t | ACGIH® 2019 |

Notation

Ceiling-C STEL

t

ceiling value is a limit value above which exposure should not occur

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) thoracic fraction

2020-11-11

Notation

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 valu | ies | | | | | | | | | |
|-----------------------|------------|-------------|------------------------|-------------------------------------|----------------------------|----------------------|---------------------------|-------------------------------|-------------------------------|----------------------------|
| Country Name | P | Parameter | | Notation | Identifier | | Value | | Source | |
| US me | ethanol | | methanol | | | E | BEI® | 15 mg/l | | ACGIH® 2019 |
| Relevant DNELs of | components | s of the mi | ixture | | | | | | | |
| Name of substance | CAS No | Endpoint | Threshold level | Pi roi | rotection g ute of expo | oal, sure | Us | ed in | Ex | posure time |
| Ammonium thiocyanate | 1762-95-4 | DNEL | 2.8 mg/m ³ | hι | uman, inhala | itory | worker | (industry) | chr | onic - systemic effects |
| Ammonium thiocyanate | 1762-95-4 | DNEL | 4 mg/kg bw/ day | ł | numan, dern | nal | worker | (industry) | chronic - systemic effects | |
| methanol | 67-56-1 | DNEL | 130 mg/m ³ | hι | human, inhalatory v | | worker (industry) | | chronic - systemic effects | |
| methanol | 67-56-1 | DNEL | 130 mg/m ³ | human, inhalatory | | worker (industry) | | acute - systemic ef- fects | | |
| methanol | 67-56-1 | DNEL | 130 mg/m ³ | human, inhalatory worker (industry) | | chi | onic - local ef- fects | | | |
| methanol | 67-56-1 | DNEL | 130 mg/m ³ | hι | uman, inhala | tory | y worker (industry) | | acute - local effects | |
| methanol | 67-56-1 | DNEL | 20 mg/kg bw/ day | ł | numan, dern | nal | worker (industry) | | chronic - systemic effects | |
| methanol | 67-56-1 | DNEL | 20 mg/kg bw/ day | human, dermal | | worker (industry) | | acute - systemic ef- fects | | |
| sulfuric acid | 7664-93-9 | DNEL | 0.05 mg/m ³ | human, inhalatory | | worker (industry) | | chronic - local ef- fects | | |
| sulfuric acid | 7664-93-9 | DNEL | 0.1 mg/m ³ | human, inhalatory | | worker (industry) ad | | acut | e - local effects | |
| Carbohydrazide | 497-18-7 | DNEL | 2.64 mg/m ³ | human, inhalatory | | worker (industry) | | chronic - systemic effects | | |
| Carbohydrazide | 497-18-7 | DNEL | 0.75 mg/kg bw/day | human, dermal | | worker | er (industry) chr | | onic - systemic effects | |

| Relevant PNECs of components of the mixture | | | | | | |
|---|-----------|----------|-------------------------------------|-------------------|---------------------------------|---------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| Ammonium thiocyanate | 1762-95-4 | PNEC | 0.095 ^{mg} / _l | aquatic organisms | freshwater | short-term (single instance) |
| Ammonium thiocyanate | 1762-95-4 | PNEC | 0.009 ^{mg} / _l | aquatic organisms | marine water | short-term (single instance) |
| Ammonium thiocyanate | 1762-95-4 | PNEC | 30 ^{mg} / _l | aquatic organisms | sewage treatment plant (STP) | short-term (single instance) |
| Ammonium thiocyanate | 1762-95-4 | PNEC | 0.543 ^{mg} / _{kg} | aquatic organisms | freshwater sedi- ment | short-term (single instance) |

٦

Г

| Relevant PNECs of components of the mixture | | | | | | |
|---|-----------|----------|-------------------------------------|-----------------------|---------------------------------|---------------------------------|
| Name of substance | CAS No | Endpoint | Threshold level | Organism | Environmental compartment | Exposure time |
| Ammonium thiocyanate | 1762-95-4 | PNEC | 0.054 ^{mg} / _{kg} | aquatic organisms | marine sediment | short-term (single instance) |
| Ammonium thiocyanate | 1762-95-4 | PNEC | 6.336 ^{mg} / _{kg} | terrestrial organisms | soil | short-term (single instance) |
| 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 sedi- ment | 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) |
| 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 sedi- ment | short-term (single instance) |
| sulfuric acid | 7664-93-9 | PNEC | 0.002 ^{mg} / _{kg} | aquatic organisms | marine sediment | short-term (single instance) |
| Carbohydrazide | 497-18-7 | PNEC | 0.002 ^{mg} / _l | aquatic organisms | freshwater | short-term (single instance) |
| Carbohydrazide | 497-18-7 | PNEC | 0 ^{mg} /l | aquatic organisms | marine water | short-term (single instance) |
| Carbohydrazide | 497-18-7 | PNEC | 2.5 ^{mg} / _l | aquatic organisms | sewage treatment plant (STP) | 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 Refills: 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.

VACUettes Refills: Sealed glass ampoules, 7 mm OD, with small glass capillary attached, for visual colorimetric water analysis. Each VACUette[™] ampoule contains approximately 0.2 - 0.5 mL of liquid reagent sealed under vacuum. Refills contain 30 ampoules, test kits contain 1 refill.

Vacu-vials Ampoules: Sealed glass ampoules, 13 mm OD, for instrumental colorimetric water analysis. Each Vacu-vial™ ampoule contains approximately 0.9 - 2 mL of liquid reagent sealed under vacuum. Test kits contain 30 ampoules.

Appearance

| Physical state | liquid |
|----------------|----------------|
| Color | colorless |
| Odor | characteristic |

Other safety parameters

| pH (value) | 1.5 (acid) |
|---|-----------------------|
| Melting point/freezing point | 1 °C |
| Initial boiling point and boiling range | 101 °C at 101.3 kPa |
| Flash point | >101 °C at 101.3 kPa |
| Evaporation rate | not determined |
| Flammability (solid, gas) | not relevant, (fluid) |

Explosive limits

| - Lower explosion limit (LEL) | 4 vol% |
|-------------------------------|-----------------------------------|
| - Upper explosion limit (UEL) | 19.9 vol% |
| Vapor pressure | 20.79 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 | 463 °C |
| 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

Release of flammable materials with:

Light metals (due to the release of hydrogen in an acid/alkaline medium)

10.6 Hazardous decomposition products

Reasonably anticipated hazardous decomposition products produced as a result of use, storage, spill and heating are not known. Hazardous combustion products: see section 5.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Test data are not available for the complete mixture.

Classification procedure

The method for classification of the mixture is based on ingredients of the mixture (additivity formula).

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

Acute toxicity

Shall not be classified as acutely toxic.

| Acute toxicity estimate (ATE) of components of the mixture | | | | | | | | |
|--|-----------|-----------------------|--------------------------------------|--|--|--|--|--|
| Name of substance CAS No Exposure route ATE | | | | | | | | |
| Ammonium thiocyanate | 1762-95-4 | oral | 750 ^{mg} / _{kg} | | | | | |
| Ammonium thiocyanate | 1762-95-4 | dermal | 1,100 ^{mg} / _{kg} | | | | | |
| Ammonium thiocyanate | 1762-95-4 | inhalation: dust/mist | 1.5 ^{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} /ı/4h | | | | | |
| sulfuric acid | 7664-93-9 | inhalation: vapor | 3 ^{mg} / _l /4h | | | | | |
| sulfuric acid | 7664-93-9 | inhalation: dust/mist | 0.85 ^{mg} /ı/4h | | | | | |
| Carbohydrazide | 497-18-7 | oral | 311 ^{mg} / _{kg} | | | | | |

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.

Germ cell mutagenicity

Shall not be classified as germ cell mutagenic.

Carcinogenicity

Shall not be classified as carcinogenic.

| IARC Monographs on the Evaluatio | on of Carcinoge | enic Risks to Human | S |
|----------------------------------|-----------------|---------------------|--------|
| Name of substance | | Classification | Number |

| Name of substance | CAS No | Classification | Number |
|-------------------|-----------|----------------|--------|
| sulfuric acid | 7664-93-9 | 1 | |

L<u>egend</u> 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 9th Report on Carcinogens carcinogen | | | | | | | |

Reproductive toxicity

Shall not be classified as a reproductive toxicant.

Specific target organ toxicity - single exposure

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

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

Harmful to aquatic life.

| Aquatic toxicity (acute) of components of the mixture | | | | | | |
|---|-----------|-------|-------------------------------------|-----------------------|------|--|
| Name of substance CAS No Endpoint Value Species Exponential | | | | | | |
| Acetic acid | 64-19-7 | LC50 | >1,000 ^{mg} / _l | fish | 96 h | |
| Acetic acid | 64-19-7 | EC50 | >1,000 ^{mg} / _l | aquatic invertebrates | 48 h | |
| Acetic acid | 64-19-7 | ErC50 | >1,000 ^{mg} / _l | algae | 72 h | |
| Ammonium thiocyanate | 1762-95-4 | LC50 | 65 ^{mg} / _l | fish | 96 h | |
| Ammonium thiocyanate | 1762-95-4 | EC50 | 3.56 ^{mg} / _l | aquatic invertebrates | 48 h | |
| methanol | 67-56-1 | LC50 | 15,400 ^{mg} / _l | fish 96 | | |
| methanol | 67-56-1 | EC50 | 12,700 ^{mg} / _l | fish 96 | | |
| methanol | 67-56-1 | ErC50 | 22,000 ^{mg} / _l | algae | 96 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 | |
| Carbohydrazide | 497-18-7 | LC50 | 190 ^{mg} / _l | bluegill | 96 h | |

| Versior | Version number: 10.4 2020-11-11 | | | | | | | |
|---------|--|------------------|------------------|---------------------------------------|--------------------------------|------------------|--|--|
| | Aquatic toxicity (acu | te) of component | s of the mixture | | | | | |
| | Name of substance | CAS No | Endpoint | Value | Species | Exposure time | | |
| | Carbohydrazide | 497-18-7 | LC50 | 96 ^{mg} / _l | daphnia magna | 48 h | | |
| 12.2 | Persistence and deg Data are not available. | radability | | | | | | |
| 12.3 | Bioaccumulative po Data are not available. | tential | | | | | | |
| 12.4 | Mobility in soil Data are not available. | | | | | | | |
| 12.5 | Results of PBT and v Data are not available. | PvB assessment | : | | | | | |
| 12.6 | Other adverse effec Data are not available. | ts | | | | | | |
| SECT | ION 13: Disposal con | siderations | | | | | | |
| 13.1 | Waste treatment me | ethods | | please consider th provisions | e relevant national o | r regional | | |
| SECT | ION 14: Transport in | formation | | | | | | |
| 14.1 | UN number | | I | not subject to trar | nsport regulations | | | |
| 14.2 | UN proper shipping | name | | | | | | |
| 14.3 | Transport hazard cla | ass(es) | I | not assigned | | | | |
| 14.4 | Packing group | | I | not assigned | | | | |
| 14.5 | Environmental haza | rds | | non-environmenta ous goods regulat | ally hazardous acc. to ions | the danger- | | |

Other relevant information 14.6

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)

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 quant- ity (pounds) (pounds) (pounds) | | | | | |
| sulfuric acid 7664-93-9 1,000 1000 | | | | | |

- 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, va- pors, gas, fog, and other airborne forms of any particle size | 1986-12-31 | | |
| methanol | 67-56-1 | | 1986-12-31 | | |

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

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

| Name of substance | CAS No | Remarks | Statutory code | Final RQ pounds (Kg) |
|----------------------|-----------|---------|----------------|----------------------|
| Acetic acid | 64-19-7 | | 1 | 5000 (2270) |
| sulfuric acid | 7664-93-9 | | 1 | 1000 (454) |
| methanol | 67-56-1 | | 3 4 | 5000 (2270) |
| Ammonium thiocyanate | 1762-95-4 | | 1 | 5000 (2270) |

Legend

1

"1" indicates that the statutory source is section 311(b)(2) of the Clean Water Act

Legend

- 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

none of the ingredients are listed

Right to Know Hazardous Substance List

- Hazardous Substance List (NJ-RTK)

| Name of substance | CAS No | Remarks | Classifications |
|----------------------|-----------|---------|-----------------|
| Acetic acid | 64-19-7 | | CO F2 |
| sulfuric acid | 7664-93-9 | | CA CO R2 |
| methanol | 67-56-1 | | TE F3 |
| Ammonium thiocyanate | 1762-95-4 | | |

Legend

- CA Carcinogenic
- CO Corrosive
- F2 Flammable Second Degree
- F3 Flammable Third 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 | | | |

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 |
| 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 | | |

National inventories

| Country | Inventory | Status |
|---------|------------|--------------------------------|
| US | TSCA | not all ingredients are listed |
| AU | AICS | all ingredients are listed |
| CA | DSL | not all ingredients are listed |
| CN | IECSC | all ingredients are listed |
| EU | ECSI | not 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 | all ingredients are listed |
| TR | CICR | not all ingredients are listed |
| TW | TCSI | all ingredients are listed |

Legend

| AICS | Australian Inventory of Chemical Substances |
|------------|---|
| | 5 |
| CICR | Chemical Inventory and Control Regulation |
| CSCL-ENCS | List of Existing and New Chemical Substances (CSCL-ENCS) |
| DSL | Domestic Substances List (DSL) |
| ECSI | EC Substance Inventory (EINECS, ELINCS, NLP) |
| IECSC | Inventory of Existing Chemical Substances Produced or Imported in China |
| INSQ | National Inventory of Chemical Substances |
| ISHA-ENCS | Inventory of Existing and New Chemical Substances (ISHA-ENCS) |
| KECI | Korea Existing Chemicals Inventory |
| NZIoC | New Zealand Inventory of Chemicals |
| PICCS | Philippine Inventory of Chemicals and Chemical Substances (PICCS) |
| REACH Reg. | REACH registered substances |
| TCSI | Taiwan Chemical Substance Inventory |
| TSCA | Toxic Substance Control Act |
| | |

15.2 Chemical Safety Assessment

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

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. |
| H226 | Flammable liquid and vapor. |
| H301 | Toxic if swallowed. |
| H302 | Harmful if swallowed. |
| H311 | Toxic in contact with skin. |
| H312 | Harmful in contact with skin. |
| H314 | Causes severe skin burns and eye damage. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H318 | Causes serious eye damage. |
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H350 | May cause cancer. |
| H370 | Causes damage to organs. |
| H402 | Harmful to aquatic life. |

Disclaimer

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