# SAFETY DATA SHEET

## Rusty Yellow-B

## Section 1. Identification

GHS product identifier : **Rusty Yellow-B**

Product code : UN 3264

Other means of identification : Not available.

Product type : Liquid.

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

Product use : Metal coloring solution.

Area of application : Consumer applications, Industrial applications, Professional applications.

Manufacturer : Triple-S Chemical Products Inc.
3464 Union Pacific Avenue
Los Angeles, CA 90023
Local tel #: 323-261-7301
www.ssschemical.com

e-mail address of person responsible for this SDS : info@ssschemical.com

Emergency telephone number (with hours of operation) : 800-535-5053 INFOTRAC
352-323-3500 (outside US)

## Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200).

Classification of the substance or mixture :

| | |
|---|---|
| H314 | SKIN CORROSION - Category 1 |
| H318 | SERIOUS EYE DAMAGE - Category 1 |
| H350 | CARCINOGENICITY - Category 1B |
| H371 | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2 |

**GHS label elements**

Hazard pictograms :



Signal word : Danger

Hazard statements : H314 - Causes severe skin burns and eye damage.
H350 - May cause cancer.
H371 - May cause damage to organs. (blood, blood system)

# Section 2. Hazards identification

## Precautionary statements

**Prevention** : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves: > 8 hours (breakthrough time): neoprene/ Plastic./ Rubber gloves.. Wear protective clothing: Recommended: Wear chemical-resistant apron.. Wear eye or face protection.
P260 - Do not breathe vapor.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash thoroughly after handling.

**Response** : P308 + P311 - IF exposed or concerned: Call a POISON CENTER or doctor.
P304 + P340, P310 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER or doctor.
P301 + P310, P330, P331 - IF SWALLOWED: Immediately call a POISON CENTER or doctor. Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353, P310 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. Immediately call a POISON CENTER or doctor.
P363 - Wash contaminated clothing before reuse.
P305 + P351 + P338, P310 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

**Storage** : P405 - Store locked up.

**Disposal** : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Supplemental label elements** : Do not taste or swallow. Wash thoroughly after handling.

**Hazards not otherwise classified** : Causes digestive tract burns.

**Hazards identified when used** : No known significant effects or critical hazards.

# Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

**Other means of identification** : Not available.

| Ingredient name | Synonyms | % | Identifiers |
|---|---|---|---|
| Nitric acid, iron(3+) salt, nonahydrate | - | ≥3 - ≤7 | CAS: 7782-61-8 |
| sodium chlorate | - | ≥3 - ≤7 | CAS: 7775-09-9 |
| Nitric acid, copper(2+) salt, hydrate (2:1:3) | - | ≥1 - ≤5 | CAS: 10031-43-3 |

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

**There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified and hence require reporting in this section.**

**Occupational exposure limits, if available, are listed in Section 8.**

# Section 4. First aid measures

## Description of necessary first aid measures

General Advice: : Immediate medical attention may be required. Show this Safety Data Sheet (SDS) to the doctor in attendance. If exposed or concerned: get medical advice/attention.

Eye contact : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

Inhalation : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Get medical attention immediately. Call a poison center or physician. Wash contaminated skin with soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Ingestion : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

## Most important symptoms/effects, acute and delayed

### Potential acute health effects

Eye contact : Causes serious eye damage.

Inhalation : May cause damage to organs following a single exposure if inhaled.

Skin contact : Causes severe burns. May cause damage to organs following a single exposure in contact with skin.

Ingestion : Corrosive to the digestive tract. Causes burns. May cause damage to organs following a single exposure if swallowed.

### Over-exposure signs/symptoms

Eye contact : Adverse symptoms may include the following:
pain /watering / redness

Inhalation : No specific data.

Skin contact : Adverse symptoms may include the following:
pain or irritation / redness / blistering may occur

Ingestion : Adverse symptoms may include the following:
stomach pains

# Section 4. First aid measures

## Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination. Avoid contact with skin, eyes or clothing. Avoid direct contact with skin. Use barrier to give mouth-to-mouth resuscitation. Avoid breathing vapors or mists. Use personal protective equipment as required. See section 8 for more information

**See toxicological information (Section 11)**

# Section 5. Fire-fighting measures

## Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or $CO_2$.

Unsuitable extinguishing media : Do not use water jet.

Specific hazards arising from the chemical : In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
nitrogen oxides
halogenated compounds
metal oxide/oxides
Selenium

Special protective actions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Remark : Not explosive.

# Section 6. Accidental release measures

## Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

## Methods and materials for containment and cleaning up

# Section 6. Accidental release measures

**Small spill** : Stop leak if without risk. Move containers from spill area. Absorb with an inert material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

**Large spill** : Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. The spilled material may be neutralized with sodium carbonate, sodium bicarbonate or sodium hydroxide. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations.

# Section 7. Handling and storage

## Precautions for safe handling

**Protective measures** : Put on appropriate personal protective equipment (see Section 8). Avoid exposure - obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Keep away from alkalis. Empty containers retain product residue and can be hazardous. Do not reuse container.

**Advice on general occupational hygiene** : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

**Conditions for safe storage, including any incompatibilities** : Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Separate from alkalis. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use. Can produce slight rotten eggs smell when in contact with metal.

# Section 8. Exposure controls/personal protection

## Control parameters

Occupational exposure limits

| Ingredient name | Exposure limits |
|---|---|
| Nitric acid, iron(3+) salt, nonahydrate | None. |
| sodium chlorate | None. |
| Nitric acid, copper(2+) salt, hydrate (2:1:3) | **CAL OSHA PEL (United States, 1/2025) [copper salts]**<br>TWA 8 hours: 1 mg/m³ (as Cu). Form: dust and mist.<br>[***Air contaminant - contact with metals***] |
| hydrogen sulfide | **ACGIH TLV (United States, 1/2024)**<br>TWA 8 hours: 1 ppm.<br>STEL 15 minutes: 5 ppm.<br>**OSHA PEL Z2 (United States, 2/2013)**<br>CEIL: 20 ppm.<br>AMP 10 minutes: 50 ppm. |

## Section 8. Exposure controls/personal protection

| | |
|---|---|
| | **NIOSH REL (United States, 10/2020)**<br>CEIL 10 minutes: 10 ppm.<br>CEIL 10 minutes: 15 mg/m³.<br>**CAL OSHA PEL (United States, 1/2025)**<br>STEL 15 minutes: 21 mg/m³.<br>STEL 15 minutes: 15 ppm.<br>C: 50 ppm.<br>TWA 8 hours: 14 mg/m³.<br>TWA 8 hours: 10 ppm. |
| hydrogen | [***Air contaminant - contact with metals***]<br>**ACGIH TLV (United States, 1/2024)** Oxygen depletion [asphyxiant] , Explosive potential. |

### Biological exposure indices

None known.

**Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

**Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

**Pictograms** :



**Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

**Eye/face protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles and/or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

### Skin protection

**Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated. > 8 hours (breakthrough time): neoprene/ Plastic./ Rubber gloves.

**Body protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: Wear chemical-resistant apron.

**Other skin protection** : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 8. Exposure controls/personal protection

Respiratory protection : When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. Wear a properly fitted respirator with acid gas canisters and mist/particulate filters. Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator w/ full or ½ face N95 cartridge masks if exposure limits are exceeded or symptoms are experienced.

## Section 9. Physical and chemical properties

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

**Appearance**

Physical state : Liquid.

Color : olive-green

Odor : Slight/Odorless.

Odor threshold : Not available.

pH : 1.15 to 1.35

Melting point/freezing point : Not available.

Boiling point or initial boiling point/boiling range : >212°C (>413.6°F)

Flash point : Not available.

Evaporation rate : <1 (butyl acetate = 1)

Flammability : Not available.

Lower and upper explosion limit/flammability limit : Not available.

Vapor pressure :

| Ingredient name | Vapor Pressure at 20˚C | | | Vapor pressure at 50˚C | | |
|---|---|---|---|---|---|---|
| | mm Hg | kPa | Method | mm Hg | kPa | Method |
| Water | 17.5 | 2.3 | | 92.258 | 12.3 | |

Relative vapor density : Not available.

Relative density Density : 1 to 1.5

: Not available.

Solubility(ies) :

| Media | Result |
|---|---|
| water | Easily soluble |

Miscible with water : Yes.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

SADT : Not available.

Viscosity : Dynamic (room temperature): Not available.
Kinematic (room temperature): Not available.
Kinematic (40°C (104°F)): Not available.

**Particle characteristics**

Median particle size : Not applicable.

**Other information**

Physical/chemical properties comments : VOC content: 0%

# Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
Under normal conditions of storage and use, hazardous polymerization will not occur.

Conditions to avoid : Excess heat or cold.

Incompatible materials : Attacks many metals producing extremely flammable hydrogen gas which can form explosive mixtures with air.
Reactive or incompatible with the following materials:
alkalis
Cyanides
Alkali metals
Chlorinated compounds
strong acids

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

# Section 11. Toxicological information

## Information on toxicological effects

### Acute toxicity

| Product/ingredient name | Result | |
|---|---|---|
| Nitric acid, iron(3+) salt, nonahydrate | **Rat - Oral - LD50**<br>3250 mg/kg | |
| sodium chlorate | **Rat - Oral - LD50**<br>1200 mg/kg | |
| | **Rabbit - Male, Female - Dermal - LD50**<br>>2000 mg/kg | OECD [Acute Dermal Toxicity] |
| Nitric acid, copper(2+) salt, hydrate (2:1:3) | **Rat - Oral - LD50**<br>940 mg/kg | |

Conclusion/Summary [Product] : Not available.

### Skin corrosion/irritation

Conclusion/Summary [Product] : Not available.

### Serious eye damage/eye irritation

Conclusion/Summary [Product] : Not available.

### Respiratory corrosion/irritation

Conclusion/Summary [Product] : Not available.

# Section 11. Toxicological information

## Respiratory or skin sensitization

Skin

Conclusion/Summary [Product] : Not available.

Respiratory Conclusion/Summary [Product] : Not available.

## Germ cell mutagenicity

Conclusion/Summary [Product] : Not available.

## Carcinogenicity

**Conclusion/Summary [Product]** : Not available.

### Classification

| Product/ingredient name | OSHA | IARC | NTP |
|---|---|---|---|
| Nitric acid, iron(3+) salt, nonahydrate | - | 2A | - |
| Nitric acid, copper(2+) salt, hydrate (2:1:3) | - | 2A | - |

## Reproductive toxicity

Conclusion/Summary [Product] : Not available.

## Specific target organ toxicity (single exposure)

| Product/ingredient name | Result |
|---|---|
| Nitric acid, iron(3+) salt, nonahydrate | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (blood system) - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| sodium chlorate | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| Nitric acid, copper(2+) salt, hydrate (2:1:3) | SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (blood) - Category 2 |

## Specific target organ toxicity (repeated exposure)

Not available.

## Aspiration hazard

Not available.



**United States**

# Section 11. Toxicological information

## Information on the likely routes of exposure

Routes of entry anticipated: Oral, Dermal, Inhalation, Eyes.

## Potential acute health effects

| | |
|---|---|
| Eye contact | : Causes serious eye damage. |
| Inhalation | : May cause damage to organs following a single exposure if inhaled. |
| Skin contact | : Causes severe burns. May cause damage to organs following a single exposure in contact with skin. |
| Ingestion | : Corrosive to the digestive tract. Causes burns. May cause damage to organs following a single exposure if swallowed. |

## Symptoms related to the physical, chemical and toxicological characteristics

| | |
|---|---|
| Eye contact | : Adverse symptoms may include the following:<br>pain<br>watering<br>redness |
| Inhalation | : No specific data. |
| Skin contact | : Adverse symptoms may include the following:<br>pain or irritation<br>redness<br>blistering may occur |
| Ingestion | : Adverse symptoms may include the following:<br>stomach pains |

## Delayed and immediate effects and also chronic effects from short and long term exposure

### Short term exposure

| | |
|---|---|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

### Long term exposure

| | |
|---|---|
| Potential immediate effects | : Not available. |
| Potential delayed effects | : Not available. |

## Potential chronic health effects

| | |
|---|---|
| Conclusion/Summary [Product] | : Not available. |
| General | : No known significant effects or critical hazards. |
| Carcinogenicity | : May cause cancer. Risk of cancer depends on duration and level of exposure. |
| Mutagenicity | : No known significant effects or critical hazards. |
| Reproductive toxicity | : No known significant effects or critical hazards. |

## Numerical measures of toxicity

Acute toxicity estimates

# Section 11. Toxicological information

| Product/ingredient name | Oral (mg/kg) | Dermal (mg/kg) | Inhalation (gases) (ppm) | Inhalation (vapors) (mg/l) | Inhalation (dusts and mists) (mg/l) |
|---|---|---|---|---|---|
| Rusty Yellow-B | 8339.5 | 34307.7 | N/A | N/A | N/A |
| Nitric acid, iron(3+) salt, nonahydrate | 3250 | N/A | N/A | N/A | N/A |
| sodium chlorate | 1200 | 2500 | N/A | N/A | N/A |
| Nitric acid, copper(2+) salt, hydrate (2:1:3) | 940 | N/A | N/A | N/A | N/A |

# Section 12. Ecological information

## Toxicity

| Product/ingredient name | Result | |
|---|---|---|
| sodium chlorate | **Acute - LC50 - Fresh water**<br>Fish - Cherry salmon, yamame trout - *Oncorhynchus masou* - Fingerling<br>Size: 6.9 cm; Weight: 3 g<br>1100 mg/l [96 hours] | Effect: Mortality |
| | **Chronic - NOEC - Fresh water**<br>Algae - Diatom - *Phaeodactylum tricornutum* - Exponential growth phase<br>50 mg/l [72 hours] | Effect: Population |
| | **Acute - EC50 - Fresh water**<br>Algae - Diatom - *Phaeodactylum tricornutum* - Exponential growth phase<br>298 mg/l [72 hours] | Effect: Population |
| | **Acute - EC50 - Fresh water**<br>Daphnia - Water flea - *Daphnia magna*<br>Age: <24 hours<br>919.3 ppm [48 hours] | Effect: Intoxication<br>US EPA |
| | **Chronic - NOEC**<br>Daphnia - Water flea - *Daphnia magna*<br>526 ppm [21 days] | Effect: No Effect Coded<br>US EPA |

Conclusion/Summary [Product] : Not available.

## Persistence and degradability

**Conclusion/Summary [Product]** : Not available.

| Product/ingredient name | Aquatic half-life | Photolysis | Biodegradability |
|---|---|---|---|
| sodium chlorate | - | - | Readily |

## Bioaccumulative potential

| Product/ingredient name | $LogP_{ow}$ | BCF | Potential |
|---|---|---|---|
| sodium chlorate | <-2.9 | - | Low |

## Mobility in soil

## Section 12. Ecological information

Soil/Water partition coefficient : Not available.

**Other adverse effects**

No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

| | DOT Classification | TDG Classification | Mexico Classification | IMDG | IATA |
|---|---|---|---|---|---|
| UN number | UN3264 | UN3264 | UN3264 | UN3264 | UN3264 |
| UN proper shipping name | Corrosive liquid, acidic, inorganic, n.o.s. (Ferric Nitrate) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Ferric Nitrate) | LÍQUIDO CORROSIVO, ÁCIDO, INORGÁNICO, N.E.P. (Ferric Nitrate) | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Ferric Nitrate) | Corrosive liquid, acidic, inorganic, n.o.s. (Ferric nitrate) |
| Transport hazard class(es) | 8   | 8   | 8   | 8   | 8   |
| Packing group | III | III | III | III | III |
| Environmental hazards | No. | Yes. | Yes. The environmentally hazardous substance mark is not required. | Yes. | Yes. The environmentally hazardous substance mark is not required. |

**Additional information**

## Section 14. Transport information

**DOT Classification** : Reportable quantity 2325.6 lbs / 1055.8 kg [223.13 gal / 844.65 L]. Package sizes shipped in quantities less than the product reportable quantity are not subject to the RQ (reportable quantity) transportation requirements.
Limited quantity Yes.
Packaging instruction Exceptions: 154. Non-bulk: 203. Bulk: 241.
Quantity limitation Passenger aircraft/rail: 5 L. Cargo aircraft: 60 L.
Special provisions IB3, T7, TP1, TP28

**TDG Classification** : Product classified as per the following sections of the Transportation of Dangerous Goods Regulations: 2.40-2.42 (Class 8), 2.7 (Marine pollutant mark).
The marine pollutant mark is not required when transported by road or rail.
Explosive Limit and Limited Quantity Index 5
Passenger Carrying Road or Rail Index 5 Special provisions 16

**Mexico Classification** : Special provisions 223, 274

**IMDG** : The marine pollutant mark is not required when transported in sizes of ≤5 L or ≤5 kg.
Emergency schedules F-A, S-B
Special provisions 223, 274

**IATA** : The environmentally hazardous substance mark may appear if required by other transportation regulations.
Quantity limitation Passenger and Cargo Aircraft: 5 L. Packaging instructions: 852. Cargo Aircraft Only: 60 L. Packaging instructions: 856. Limited Quantities - Passenger Aircraft: 1 L. Packaging instructions: Y841.
Special provisions A3, A803

**Special precautions for user** : Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

**Transport in bulk according to IMO instruments** : Not available.

## Section 15. Regulatory information

**U.S. Federal regulations** : **TSCA 8(a) CDR Exempt/Partial exemption**: Not determined

**United States inventory (TSCA 8b)**: All components are active or exempted.

**Clean Water Act (CWA) 307**: Nitric acid, copper(2+) salt, hydrate (2:1:3)

**Clean Water Act (CWA) 311**: Nitric acid, iron(3+) salt, nonahydrate; Nitric acid, copper (2+) salt, hydrate (2:1:3)

**TSCA 12(b) - Chemical export notification**

Not applicable.

**Clean Air Act Section 112 (b) Hazardous Air Pollutants (HAPs)** : Not listed

**Clean Air Act Section 602 Class I Substances** : Not listed

**Clean Air Act Section 602 Class II Substances** : Not listed

**DEA List I Chemicals (Precursor Chemicals)** : Not listed



**United States**

# Section 15. Regulatory information

**DEA List II Chemicals (Essential Chemicals)** : Not listed

## SARA 302/304

### Composition/information on ingredients

No products were found.

SARA 304 RQ : Not applicable.

## SARA 311/312

Classification : SKIN CORROSION - Category 1
SERIOUS EYE DAMAGE - Category 1
CARCINOGENICITY - Category 1B
SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2
HNOC - Corrosive to digestive tract

### Composition/information on ingredients

| Name | % | Classification |
|---|---|---|
| Nitric acid, iron(3+) salt, nonahydrate | ≥3 - ≤7 | OXIDIZING SOLIDS - Category 3<br>SKIN IRRITATION - Category 2<br>EYE IRRITATION - Category 2A<br>CARCINOGENICITY - Category 1B<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| sodium chlorate | ≥3 - ≤7 | OXIDIZING SOLIDS - Category 1<br>ACUTE TOXICITY (oral) - Category 4<br>SKIN IRRITATION - Category 2<br>EYE IRRITATION - Category 2A<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract irritation) - Category 3 |
| Nitric acid, copper(2+) salt, hydrate (2:1:3) | ≥1 - ≤5 | OXIDIZING SOLIDS - Category 2<br>ACUTE TOXICITY (oral) - Category 4<br>SKIN CORROSION - Category 1B<br>SERIOUS EYE DAMAGE - Category 1<br>SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2<br>HNOC - Corrosive to digestive tract |

## SARA 313

| | Product name | CAS number | % |
|---|---|---|---|
| Form R - Reporting requirements | Nitric acid, iron(3+) salt, nonahydrate<br>Nitric acid, copper(2+) salt, hydrate (2:1:3) | 7782-61-8<br>10031-43-3 | ≥3 - ≤7<br>≥1 - ≤5 |
| Supplier notification | Nitric acid, iron(3+) salt, nonahydrate<br>Nitric acid, copper(2+) salt, hydrate (2:1:3) | 7782-61-8<br>10031-43-3 | ≥3 - ≤7<br>≥1 - ≤5 |

SARA 313 notifications must not be detached from the SDS and any copying and redistribution of the SDS shall include copying and redistribution of the notice attached to copies of the SDS subsequently redistributed.

## State regulations

Massachusetts : The following components are listed: SODIUM CHLORATE

New York : None of the components are listed.

New Jersey : The following components are listed: SODIUM CHLORATE; COPPER compounds

Pennsylvania : The following components are listed: CHLORIC ACID, SODIUM SALT; COPPER COMPOUNDS



**United States**

# Section 15. Regulatory information

## California Prop. 65

This product does not require a Safe Harbor warning under California Prop. 65.

## International regulations

### Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

### Montreal Protocol

Not listed.

### Stockholm Convention on Persistent Organic Pollutants

Not listed.

### Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

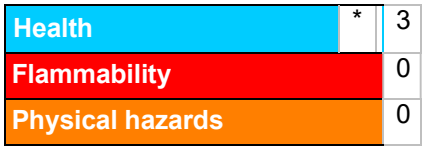
### UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

# Section 16. Other information

**Other special considerations** : The information contained herein is provided in good faith and is believed to be correct as of the date hereof. However, Triple- S makes no representation as to the comprehensiveness or accuracy of the information. Since no control is exercised over product use, Triple- S represents and warrants only that its products are of consistent quality within manufacturing tolerances. It is expected that individuals receiving the information ill exercise their independent judgment in determining its appropriateness for a particular period. Accordingly, Triple- S will not be responsible for damages of any kind resulting from the use of or the reliance upon such information. No representations, or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder to which the informations refers. No oral or written representation or statement of any kind, express or implied, now or hereafter made is authorized or warranted by Triple- S, including those of merchantability or fitness for a particular purpose Triple- S will not be liable for special, incidental or consequential damages, including for delays or lost profits. Liability for breach of contract, negligence or on any other legal basis Is limited to the lesser of refund or replacement of defective material. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide ad should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment.

## Hazardous Material Information System (U.S.A.)

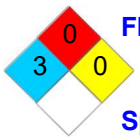



**Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.**

**The customer is responsible for determining the PPE code for this material. For more information on HMIS® Personal Protective Equipment (PPE) codes, consult the HMIS® Implementation Manual.**

## National Fire Protection Association (U.S.A.)

# Section 16. Other information




## Procedure used to derive the classification

| Classification | Justification |
|---|---|
| SKIN CORROSION - Category 1 | On basis of test data |
| SERIOUS EYE DAMAGE - Category 1 | On basis of test data |
| CARCINOGENICITY - Category 1B | Calculation method |
| SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) - Category 2 | Calculation method |

## History

**Date of issue/Date of revision** : 06/13/2025

**Date of previous issue** : No previous validation

**Version** : 1

**Prepared by** : Sphera Solutions

**Key to abbreviations** : ATE = Acute Toxicity Estimate BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods IMO = International Maritime Organization
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
N/A = Not available
SGG = Segregation Group
TDG = Transportation of Dangerous Goods UN = United Nations

**References** : HCS (U.S.A.) - Hazard Communication Standard
International transport regulations

**Indicates information that has changed from previously issued version.**

## Notice to reader

To the best of our knowledge, the information contained herein is provided in good faith and is believed to be correct as of the date hereof. However, Triple- S makes no representation as to the comprehensiveness or accuracy of the information. Since no control is exercised over product use, Triple- S represents and warrants only that its products are of consistent quality within manufacturing tolerances. It is expected that individuals receiving the information ill exercise their independent judgment in determining its appropriateness for a particular period. Accordingly, Triple- S will not be responsible for damages of any kind resulting from the use of or the reliance upon such information. No representations, or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder to which the informations refers. No oral or written representation or statement of any kind, express or implied, now or hereafter made is authorized or warranted by Triple- S, including those of merchantability or fitness for a particular purpose Triple- S will not be liable for special, incidental or consequential damages, including for delays or lost profits. Liability for breach of contract, negligence or on any other legal basis Is limited to the lesser of refund or replacement of defective material. The responsibility to provide a safe workplace remains with the user. The user should consider the health hazards and safety information contained herein as a guide ad should take those precautions required in an individual operation to instruct employees and develop work practice procedures for a safe work environment. Final determination of suitability of any material is the sole responsibility of the user. All materials may present unknown hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards that exist.