# Safety Data Sheet

**according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations**

Revision: December 11, 2020

## 1 Identification

· **Product identifier**

· **Trade name: Ferroin Indicator Solution**
· **Product code:** FE3144-A

· **Recommended use and restriction on use**
· **Recommended use:** Laboratory chemicals
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
· **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

· **Classification of the substance or mixture**
The product is not classified as hazardous according to the Globally Harmonized System (GHS).

· **Label elements**
· **GHS label elements** Not regulated.
· **Hazard pictograms:** Not regulated.
· **Signal word:** None.
· **Hazard statements:** None.
· **Precautionary statements:** None.

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

| · **Components:** | | |
|---|---|---|
| 7732-18-5 | Water | >98% |
| 7782-63-0 | ferrous sulfate heptahydrate | <0.5% |
| | Acute Tox. 4, H302; Skin Irrit. 2, H315; Eye Irrit. 2A, H319 | |
| 5144-89-8 | 1, 10-phenanthroline monohydrate | <1% |
| | Acute Tox. 3, H301; Acute Tox. 3, H311; Acute Tox. 3, H331 | |

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· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Rinse with warm water.
If skin irritation is experienced, consult a doctor.
· **After eye contact:**
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.
· **Most important symptoms and effects, both acute and delayed:**
Nausea in case of ingestion.
May cause gastro-intestinal irritation if ingested.
· **Indication of any immediate medical attention and special treatment needed:**
No relevant information available.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
The product is not flammable.
Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** No relevant information available.
· **Special hazards arising from the substance or mixture**
Formation of toxic gases is possible during heating or in case of fire.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Ensure adequate ventilation.
Use personal protective equipment as required.
· **Environmental precautions**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Methods and material for containment and cleaning up**
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).

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Clean the affected area carefully; suitable cleaners are:
Warm water

· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## 7 Handling and storage

· **Handling**
· **Precautions for safe handling:** Avoid splashes or spray in enclosed areas.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Requirements to be met by storerooms and receptacles:**
Due to photo-sensitivity, store product in brown-glass receptacles.
Unsuitable material for receptacle: aluminium.
Store in cool, dry conditions in well sealed receptacles.
· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Store away from reducing agents.
Do not store together with alkalis (caustic solutions).
· **Further information about storage conditions:** Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

| **7782-63-0 ferrous sulfate heptahydrate** | |
|---|---|
| REL (USA) | Long-term value: 1 mg/m³<br>as Fe |
| TLV (USA) | Long-term value: 1 mg/m³<br>as Fe |
| LMPE (Mexico) | Long-term value: 1 mg/m³<br>como Fe |

· **Exposure controls**
· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
· **Engineering controls:** No relevant information available.
· **Breathing equipment:** Not required under normal conditions of use.
· **Protection of hands:**

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Protective gloves

· **Eye protection:**

Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment** No special requirements.

· **Risk management measures** No special requirements.

## 9 Physical and chemical properties

· **Information on basic physical and chemical properties**

| | |
|---|---|
| · **Appearance:** | |
| **Form:** | Liquid |
| **Color:** | Not determined. |
| · **Odor:** | Not determined. |
| · **Odor threshold:** | Not determined. |
| · **pH-value:** | Not determined. |
| · **Melting point/Melting range:** | 0 °C (32 °F) |
| · **Boiling point/Boiling range:** | 102-106 °C (215.6-158.8 °F) |
| · **Flash point:** | The product is not flammable. |
| · **Flammability (solid, gaseous):** | Not applicable. |
| · **Auto-ignition temperature:** | Not determined. |
| · **Decomposition temperature:** | Not determined. |
| · **Danger of explosion:** | Product does not present an explosion hazard. |
| · **Explosion limits** | |
| **Lower:** | Not determined. |
| **Upper:** | Not determined. |
| · **Oxidizing properties:** | Not determined. |
| · **Vapor pressure:** | Not determined. |
| · **Density:** | |
| **Relative density:** | Not determined. |
| **Vapor density:** | Not determined. |
| **Evaporation rate:** | Not determined. |
| · **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| · **Partition coefficient (n-octanol/water):** | Not determined. |

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· **Viscosity**

| | |
|---|---|
| **Dynamic:** | Not determined. |
| **Kinematic:** | Not determined. |
| · **Other information** | No relevant information available. |

## 10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Reacts with certain metals.
Toxic fumes may be released if heated above the decomposition point.
Reacts with strong acids and oxidizing agents.
· **Conditions to avoid**
Excessive heat.
Direct sunlight.
· **Incompatible materials**
Oxidizers
Strong acids
· **Hazardous decomposition products**
Under fire conditions only:
Sulfur oxides (SOx)
Toxic metal oxide smoke

## 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:** Based on available data, the classification criteria are not met.
· **LD/LC50 values that are relevant for classification:** None.
· **Primary irritant effect:**
· **On the skin:** Based on available data, the classification criteria are not met.
· **On the eye:** Based on available data, the classification criteria are not met.
· **Sensitization:** Based on available data, the classification criteria are not met.

| · **IARC (International Agency for Research on Cancer):** |
|---|
| None of the ingredients are listed. |

| · **NTP (National Toxicology Program):** |
|---|
| None of the ingredients are listed. |

| · **OSHA-Ca (Occupational Safety & Health Administration):** |
|---|
| None of the ingredients are listed. |

· **Probable route(s) of exposure:**
Ingestion.
Inhalation.
Eye contact.

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Skin contact.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

· **Toxicity**
· **Aquatic toxicity** No relevant information available.
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:** Generally not hazardous for water.
· **Other adverse effects** No relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Smaller quantities can be disposed of with household waste.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

| | |
|---|---|
| · **UN-Number** | |
| · **DOT, ADR/RID/ADN, IMDG, IATA** | Not regulated. |
| · **UN proper shipping name** | |
| · **DOT, ADR/RID/ADN, IMDG, IATA** | Not regulated. |
| · **Transport hazard class(es)** | |
| · **DOT, ADR/RID/ADN, IMDG, IATA** | |
| · **Class** | Not regulated. |
| · **Packing group** | |
| · **DOT, ADR/RID/ADN, IMDG, IATA** | Not regulated. |
| · **Environmental hazards** | |

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| | |
|---|---|
| · **Marine pollutant:** | No |
| · **Special precautions for user** | Not applicable. |
| · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable. |

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act)**

| | |
|---|---|
| 7732-18-5 | Water |

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

None of the ingredients are listed.

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

Not all ingredients listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation

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IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Acute Tox. 3: Acute toxicity – Category 3
Acute Tox. 4: Acute toxicity – Category 4
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers

# Safety Data Sheet

**according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations**

Revision: January 28, 2021

## 1 Identification

· **Product identifier**

· **Trade name: Ceric (Ammonium) Sulfate, 0.0791N**
· **Product code:** CE3075-A

· **Recommended use and restriction on use**
· **Recommended use:** Laboratory chemicals
· **Restrictions on use:** No relevant information available.

· **Details of the supplier of the Safety Data Sheet**
· **Manufacturer/Supplier:**
AquaPhoenix Scientific, Inc.
860 Gitts Run Road
Hanover, PA 17331 USA
Tel +1 (717)632-1291
Toll-Free: (866)632-1291
info@aquaphoenixsci.com
· **Distributor:**
AquaPhoenix Scientific
860 Gitts Run Road,
Hanover, PA 17331
(717) 632-1291

· **Emergency telephone number:**
ChemTel Inc.
(800)255-3924 (North America)
+1 (813)248-0585 (International)

## 2 Hazard(s) identification

· **Classification of the substance or mixture**

| | | |
|---|---|---|
| Met. Corr.1 | H290 | May be corrosive to metals. |
| Skin Irrit. 2 | H315 | Causes skin irritation. |
| Eye Dam. 1 | H318 | Causes serious eye damage. |
| Skin Sens. 1 | H317 | May cause an allergic skin reaction. |

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms:**

GHS05 GHS07

· **Signal word:** Danger
· **Hazard statements:**
H290 May be corrosive to metals.
H315 Causes skin irritation.
H318 Causes serious eye damage.
H317 May cause an allergic skin reaction.
· **Precautionary statements:**

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# Safety Data Sheet

**according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations**

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**Trade name: Ceric (Ammonium) Sulfate, 0.0791N**

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| | |
|---|---|
| P234 | Keep only in original container. |
| P261 | Avoid breathing spray. |
| P264 | Wash thoroughly after handling. |
| P272 | Contaminated work clothing must not be allowed out of the workplace. |
| P280 | Wear protective gloves/protective clothing/eye protection. |
| P302+P352 | If on skin: Wash with plenty of water. |
| 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. |
| P333+P313 | If skin irritation or rash occurs: Get medical advice/attention. |
| P362+P364 | Take off contaminated clothing and wash it before reuse. |
| P390 | Absorb spillage to prevent material damage. |
| P406 | Store in corrosive resistant container with a resistant inner liner. |
| P501 | Dispose of contents/container in accordance with local/regional/national/international regulations. |

· **Other hazards** There are no other hazards not otherwise classified that have been identified.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**

· **Components:**

| | | |
|---|---|---|
| 7664-93-9 | Sulfuric acid<br>Met. Corr.1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318 | 5-10% |
| 16774-21-3 | Ceric ammonium nitrate<br>Ox. Sol. 2, H272<br>Met. Corr.1, H290; Skin Corr. 1C, H314; Eye Dam. 1, H318<br>Acute Tox. 4, H302; Skin Sens. 1A, H317 | 1-5% |
| 7732-18-5 | Water | >80% |

· **Additional information:**
For the listed ingredient(s), the identity and/or exact percentage(s) are being withheld as a trade secret.
For the wording of the listed Hazard Statements, refer to section 16.

## 4 First-aid measures

· **Description of first aid measures**
· **General information:** No special measures required.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
Immediately rinse with water.
If skin irritation or rash occurs: Get medical advice/attention.
· **After eye contact:**
Protect unharmed eye.
Remove contact lenses if worn.
Rinse opened eye for several minutes under running water. Then consult a doctor.
· **After swallowing:**
Rinse out mouth and then drink plenty of water.
Do not induce vomiting; immediately call for medical help.

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**Trade name: Ceric (Ammonium) Sulfate, 0.0791N**

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· **Most important symptoms and effects, both acute and delayed:**
Allergic reactions
Irritant to skin and mucous membranes.
Strong irritant with the danger of severe eye injury.
Gastric or intestinal disorders when ingested.
Methaemoglobinaemia
· **Danger:** Causes serious eye damage.
· **Indication of any immediate medical attention and special treatment needed:**
Medical supervision for at least 48 hours.
Treat skin and mucous membrane with antihistamine and corticoid preparations.
If medical advice is needed, have product container or label at hand.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Use fire fighting measures that suit the environment.
· **For safety reasons unsuitable extinguishing agents:** No relevant information available.
· **Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
· **Advice for firefighters**
· **Protective equipment:**
Wear self-contained respiratory protective device.
Wear fully protective suit.

## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Wear protective equipment. Keep unprotected persons away.
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.
Ensure adequate ventilation.
· **Environmental precautions** Do not allow to enter sewers/ surface or ground water.
· **Methods and material for containment and cleaning up**
Use neutralising agent: mélange listé ci-dessous.
Water + calcium oxide or calcium carbonate.
Send for recovery or disposal in suitable receptacles.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

## 7 Handling and storage

· **Handling**
· **Precautions for safe handling:**
Prevent formation of aerosols.
Avoid splashes or spray in enclosed areas.
Use only in well ventilated areas.

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# Safety Data Sheet

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· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**

· **Requirements to be met by storerooms and receptacles:**
Store only in the original receptacle.
Unsuitable material for receptacle: aluminium.

· **Information about storage in one common storage facility:**
Store away from foodstuffs.
Do not store together with reducing agents, heavy-metal compounds, acids and alkalis.

· **Further information about storage conditions:** Keep containers tightly sealed.

· **Specific end use(s)** No relevant information available.

## 8 Exposure controls/personal protection

· **Control parameters**

· **Components with limit values that require monitoring at the workplace:**
The following constituent is the only constituent of the product which has a PEL, TLV or other recommended exposure limit.

| **7664-93-9 Sulfuric acid** | |
|---|---|
| PEL (USA) | Long-term value: 1 mg/m³ |
| REL (USA) | Long-term value: 1 mg/m³ |
| TLV (USA) | Long-term value: 0.2* mg/m³<br>*as thoracic fraction |
| EL (Canada) | Long-term value: 0.2 mg/m³<br>ACGIH A2; IARC 1 |
| EV (Canada) | Long-term value: 0.2 mg/m³ |
| LMPE (Mexico) | Long-term value: 0.2* mg/m³<br>A2;*fracción torácica |

· **Exposure controls**

· **General protective and hygienic measures:**
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.
Wash hands before breaks and at the end of work.
Do not inhale gases / fumes / aerosols.
Avoid contact with the eyes and skin.

· **Engineering controls:** Provide adequate ventilation.

· **Breathing equipment:**
Not required under normal conditions of use.
Use suitable respiratory protective device when high concentrations are present.
For large spills, respiratory protection may be advisable.

· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

· **Material of gloves**

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Butyl rubber, BR
Nitrile rubber, NBR
Neoprene gloves
Fluorocarbon rubber (Viton)

· **Eye protection:**

Safety glasses

Follow relevant national guidelines concerning the use of protective eyewear.

· **Body protection:** Protective work clothing

· **Limitation and supervision of exposure into the environment**
No relevant information available.

## 9 Physical and chemical properties

| | |
|---|---|
| · **Information on basic physical and chemical properties** | |
| · **Appearance:** | |
| **Form:** | Liquid |
| **Color:** | Orange |
| · **Odor:** | Characteristic |
| · **Odor threshold:** | Not determined. |
| · **pH-value at 20 °C (68 °F):** | <3 |
| · **Melting point/Melting range:** | Not determined. |
| · **Boiling point/Boiling range:** | 100-105 °C (212-157 °F) |
| · **Flash point:** | The product is not flammable. |
| · **Flammability (solid, gaseous):** | Not applicable. |
| · **Auto-ignition temperature:** | Not determined. |
| · **Decomposition temperature:** | Not determined. |
| · **Danger of explosion:** | Product does not present an explosion hazard. |
| · **Explosion limits** | |
| **Lower:** | Not determined. |
| **Upper:** | Not determined. |
| · **Oxidizing properties:** | Not determined. |
| · **Vapor pressure at 20 °C (68 °F):** | 23 hPa (17.3 mm Hg) |
| · **Density at 20 °C (68 °F):** | >1.05 g/cm³ (>8.76 lbs/gal) |
| · **Relative density:** | Not determined. |
| · **Vapor density:** | Not determined. |
| · **Evaporation rate:** | Not determined. |
| · **Solubility in / Miscibility with** | |
| **Water:** | Fully miscible. |
| · **Partition coefficient (n-octanol/water):** | Not determined. |

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**Trade name: Ceric (Ammonium) Sulfate, 0.0791N**

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· **Viscosity**
**Dynamic:** Not determined.
**Kinematic:** Not determined.
· **Other information** No relevant information available.

## 10 Stability and reactivity

· **Reactivity:** No relevant information available.
· **Chemical stability:** Stable under normal temperatures and pressures.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
Toxic fumes may be released if heated above the decomposition point.
Reacts with alkali (lyes).
Corrosive action on metals.
Reacts with certain metals.
Reacts with reducing agents.
· **Conditions to avoid** No relevant information available.
· **Incompatible materials** No relevant information available.
· **Hazardous decomposition products**
Under fire conditions only:
Toxic metal oxide smoke
Sulfur oxides (SOx)
Nitrogen oxides (NOx)

## 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

| · **LD/LC50 values that are relevant for classification:** | | |
|---|---|---|
| **ATE (Acute Toxicity Estimate)** | | |
| Oral | LD50 | >5000 mg/kg (rat) |

· **Primary irritant effect:**
· **On the skin:** Irritant to skin and mucous membranes.
· **On the eye:** Strong irritant with the danger of severe eye injury.
· **Sensitization:** Sensitization possible through skin contact.

| · **IARC (International Agency for Research on Cancer):** |
|---|
| None of the ingredients are listed. |

| · **NTP (National Toxicology Program):** | | |
|---|---|---|
| 7664-93-9 | Sulfuric acid | K |

| · **OSHA-Ca (Occupational Safety & Health Administration):** |
|---|
| None of the ingredients are listed. |

· **Probable route(s) of exposure:**
Ingestion.

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Inhalation.
Eye contact.
Skin contact.
· **Acute effects (acute toxicity, irritation and corrosivity):**
Causes serious eye damage.
Irritating to skin.
· **Repeated dose toxicity:** Repeated exposure may result in skin sensitivity.
· **Germ cell mutagenicity:** Based on available data, the classification criteria are not met.
· **Carcinogenicity:** Based on available data, the classification criteria are not met.
· **Reproductive toxicity:** Based on available data, the classification criteria are not met.
· **STOT-single exposure:** Based on available data, the classification criteria are not met.
· **STOT-repeated exposure:** Based on available data, the classification criteria are not met.
· **Aspiration hazard:** Based on available data, the classification criteria are not met.

## 12 Ecological information

· **Toxicity**
· **Aquatic toxicity** Toxic for aquatic organisms
· **Persistence and degradability** No relevant information available.
· **Bioaccumulative potential:** No relevant information available.
· **Mobility in soil:** No relevant information available.
· **Additional ecological information**
· **General notes:**
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **Other adverse effects** No relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

· **Uncleaned packagings**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

## 14 Transport information

· **UN-Number**
· **DOT, ADR/RID/ADN, IMDG, IATA** UN3264

· **UN proper shipping name**

(Cont'd. on page 8)

# Safety Data Sheet

**according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations**

Revision: January 28, 2021

**Trade name: Ceric (Ammonium) Sulfate, 0.0791N**

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| | |
|---|---|
| · **DOT** | Corrosive liquid, acidic, inorganic, n.o.s. (Sulfuric acid, diammonium hexanitratocerate) |
| · **ADR/RID/ADN** | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID, diammonium hexanitratocerate), ENVIRONMENTALLY HAZARDOUS |
| · **IMDG, IATA** | CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (SULPHURIC ACID, diammonium hexanitratocerate) |

· **Transport hazard class(es)**

· **DOT**


| | |
|---|---|
| · **Class** | 8 |
| · **Label** | 8 |

· **ADR/RID/ADN**

| | |
|---|---|
| · **Class** | 8 (C1) |
| · **Label** | 8 |

· **IMDG**

| | |
|---|---|
| · **Class** | 8 |
| · **Label** | 8 |

· **IATA**

| | |
|---|---|
| · **Class** | 8 |
| · **Label** | 8 |

· **Packing group**

| | |
|---|---|
| · **DOT, ADR/RID/ADN, IMDG, IATA** | III |

· **Environmental hazards**

| | |
|---|---|
| · **Marine pollutant:** | Yes (DOT)<br>Symbol (fish and tree) |

| | |
|---|---|
| · **Special precautions for user** | Warning: Corrosive substances |
| · **Hazard identification number (Kemler code):** | 80 |
| · **EMS Number:** | F-A,S-B |
| · **Segregation groups** | Acids |

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# Safety Data Sheet

**according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations**

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· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** Not applicable.

## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **United States (USA)**

· **SARA**

· **Section 302 (extremely hazardous substances):**

None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**

| | |
|---|---|
| 7664-93-9 | Sulfuric acid |
| 16774-21-3 | Ceric ammonium nitrate |

· **TSCA (Toxic Substances Control Act)**

| | |
|---|---|
| 7664-93-9 | Sulfuric acid |
| 16774-21-3 | Ceric ammonium nitrate |
| 7732-18-5 | Water |

· **Proposition 65 (California)**

· **Chemicals known to cause cancer:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for females:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity for males:**

None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**

None of the ingredients are listed.

· **EPA (Environmental Protection Agency):**

| | | |
|---|---|---|
| 16774-21-3 | Ceric ammonium nitrate | II |

· **IARC (International Agency for Research on Cancer):**

None of the ingredients are listed.

· **Canadian Domestic Substances List (DSL):**

None of the ingredients are listed.

## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Abbreviations and acronyms:**

ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road

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# Safety Data Sheet

**according to OSHA HCS (29CFR 1910.1200) and WHMIS 2015 Regulations**

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**Trade name: Ceric (Ammonium) Sulfate, 0.0791N**

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IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
OSHA: Occupational Safety & Health Administration
Ox. Sol. 2: Oxidizing solids – Category 2
Met. Corr.1: Corrosive to metals – Category 1
Acute Tox. 4: Acute toxicity – Category 4
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Skin Corr. 1C: Skin corrosion/irritation – Category 1C
Skin Irrit. 2: Skin corrosion/irritation – Category 2
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Skin Sens. 1: Skin sensitisation – Category 1
Skin Sens. 1A: Skin sensitisation – Category 1A

· **Sources**

Website, European Chemicals Agency (echa.europa.eu)
Website, US EPA Substance Registry Services (ofmpub.epa.gov/sor internet/registry/substreg/home/overview/home.do)
Website, Chemical Abstracts Registry, American Chemical Society (www.cas.org)
Patty's Industrial Hygiene, 6th ed., Rose, Vernon, ed. ISBN: 978-0-470-07488-6
Casarett and Doull's Toxicology: The Basic Science of Poisons, 8th Ed., Klaasen, Curtis D., ed., ISBN: 978-0-07-176923-5.
Safety Data Sheets, Individual Manufacturers