

# Safety Data Sheet


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

Revision: February 13, 2020

## 1 Identification

- **Product identifier**
- **Trade name: Ceric Sulfate 0.21N**
- **Product code:** DU409291
- **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:**  
Dubois Chemicals Inc.  
3630 East Kemper Rd,  
Cincinnati, OH 45241  
(800) 438-2647
- **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 Corr. 1C H314 Causes severe skin burns and eye damage.  
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.  
H314 Causes severe skin burns and eye damage.  
H317 May cause an allergic skin reaction.
- **Precautionary statements:**  
P234 Keep only in original container.

(Cont'd. on page 2)

# Safety Data Sheet

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

Revision: February 13, 2020

**Trade name: Ceric Sulfate 0.21N**

(Cont'd. of page 1)





- P260 Do not breathe mist/vapors/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.  
 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/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.  
 P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
 P363 Wash contaminated clothing before reuse.  
 P390 Absorb spillage to prevent material damage.  
 P405 Store locked up.  
 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:**

16774-21-3	diammonium hexanitratocerate  Ox. Sol. 2, H272  Met. Corr. 1, H290; Skin Corr. 1C, H314; Eye Dam. 1, H318  Acute Tox. 4, H302; Skin Sens. 1A, H317	5-10%
7664-93-9	Sulfuric acid  Met. Corr. 1, H290; Skin Corr. 1A, H314; Eye Dam. 1, H318	5-10%
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.

(Cont'd. on page 3)

# Safety Data Sheet

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

Revision: February 13, 2020

**Trade name: Ceric Sulfate 0.21N**

(Cont'd. of page 2)

- **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:**  
Allergic reactions  
Caustic effect on skin and mucous membranes.  
Danger of severe eye injury.  
Gastric or intestinal disorders when ingested.  
Methaemoglobinaemia
- **Danger:**  
May be harmful if swallowed.  
Danger of gastric perforation.  
Causes serious eye damage.
- **Indication of any immediate medical attention and special treatment needed:**  
Medical supervision for at least 48 hours.  
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**  
Slowly add calcium hydroxide slurry to material to neutralize acid.  
Pick up mechanically.  
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

(Cont'd. on page 4)

# Safety Data Sheet

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

Revision: February 13, 2020

**Trade name: Ceric Sulfate 0.21N**

(Cont'd. of page 3)

- **Handling**
- **Precautions for safe handling:**
  - Prevent formation of aerosols.
  - Avoid splashes or spray in enclosed areas.
  - Use only in well ventilated 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:**
  - Store only in the original receptacle.
  - Unsuitable material for receptacle: aluminium.
  - Unsuitable material for receptacle: steel.
- **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/m <sup>3</sup>
REL (USA)	Long-term value: 1 mg/m <sup>3</sup>
TLV (USA)	Long-term value: 0.2* mg/m <sup>3</sup> *as thoracic fraction
EL (Canada)	Long-term value: 0.2 mg/m <sup>3</sup> ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.2 mg/m <sup>3</sup>
LMPE (Mexico)	Long-term value: 0.2* mg/m <sup>3</sup> 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.

(Cont'd. on page 5)

# Safety Data Sheet

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

Revision: February 13, 2020

Trade name: Ceric Sulfate 0.21N

(Cont'd. of page 4)

· **Protection of hands:**



Protective gloves

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

· **Material of gloves**

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):** <2

· **Melting point/Melting range:** Not determined.

· **Boiling point/Boiling range:** 100-110 °C (212-166 °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):** >1.2 g/cm<sup>3</sup> (>10.01 lbs/gal)

· **Relative density:** Not determined.

(Cont'd. on page 6)

# Safety Data Sheet

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

Revision: February 13, 2020

Trade name: Ceric Sulfate 0.21N

(Cont'd. of page 5)

- |   |                                    |
|---|------------------------------------|
| · <b>Vapor density:</b>                           | Not determined.                    |
| · <b>Evaporation rate:</b>                        | Not determined.                    |
| · <b>Solubility in / Miscibility with Water:</b>  | Fully miscible.                    |
| · <b>Partition coefficient (n-octanol/water):</b> | Not determined.                    |
| · <b>Viscosity</b>                                |                                    |
| <b>Dynamic:</b>                                   | Not determined.                    |
| <b>Kinematic:</b>                                 | Not determined.                    |
| · <b>Other information</b>                        | 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 (SO<sub>x</sub>)  
Nitrogen oxides (NO<sub>x</sub>)

## 11 Toxicological information

- **Information on toxicological effects**
  - **Acute toxicity:**
- |   |
|---|
| · <b>LD/LC50 values that are relevant for classification:</b> |
| <b>ATE (Acute Toxicity Estimate)</b>                          |
| Oral   LD50   >3,000 mg/kg (rat)                              |
- **Primary irritant effect:**
  - **On the skin:** Caustic effect on skin and mucous membranes.
  - **On the eye:** Strong irritant with the danger of severe eye injury.
  - **Sensitization:** Sensitization possible through skin contact.
- |  |
|--|
| · <b>IARC (International Agency for Research on Cancer):</b> |
| None of the ingredients are listed.                          |

(Cont'd. on page 7)

# Safety Data Sheet

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

Revision: February 13, 2020

**Trade name: Ceric Sulfate 0.21N**

(Cont'd. of page 6)

· **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.  
Inhalation.  
Eye contact.  
Skin contact.

· **Acute effects (acute toxicity, irritation and corrosivity):**

May be harmful if swallowed.  
Causes severe skin burns and eye damage.

· **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.

(Cont'd. on page 8)

# Safety Data Sheet








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

Revision: February 13, 2020

Trade name: Ceric Sulfate 0.21N

(Cont'd. of page 7)

## 14 Transport information

· UN-Number	
· DOT, ADR/RID/ADN, IMDG, IATA	UN3264
· UN proper shipping name	
· 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) Symbol (fish and tree)

(Cont'd. on page 9)



# Safety Data Sheet

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

Revision: February 13, 2020

Trade name: Ceric Sulfate 0.21N

(Cont'd. of page 8)

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

- |  |                 |
|--|-----------------|
| · <b>Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code</b> | 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
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16774-21-3	diammonium hexanitratocerate
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· **TSCA (Toxic Substances Control Act)**

7664-93-9	Sulfuric acid
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16774-21-3	diammonium hexanitratocerate
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7732-18-5	Water
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· **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	diammonium hexanitratocerate	II
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· **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

(Cont'd. on page 10)

# Safety Data Sheet

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

Revision: February 13, 2020

**Trade name: Ceric Sulfate 0.21N**

(Cont'd. of page 9)

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

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 &amp; 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

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](http://echa.europa.eu))Website, US EPA Substance Registry Services ([ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do](http://ofmpub.epa.gov/sorinternet/registry/substreg/home/overview/home.do))Website, Chemical Abstracts Registry, American Chemical Society ([www.cas.org](http://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

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