### SECTION 1: Identification

#### 1.1. Identification

<table>
<thead>
<tr>
<th>Product form</th>
<th>Substance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trade name</td>
<td>Ammonium sulfate</td>
</tr>
<tr>
<td>CAS No</td>
<td>7783-20-2</td>
</tr>
<tr>
<td>Formula</td>
<td>(NH₄)₂SO₄</td>
</tr>
</tbody>
</table>

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

Use of the substance/mixture:
- Dyestuff/pigment: production
- Fire extinguishing medium
- Fertilizer

1.3. Details of the supplier of the safety data sheet

Jost Chemical Co.
8150 Lackland Rd.
Saint Louis, Missouri 63114
T 314-428-4300 - F 314-428-4366
justin.kuehnel@jostchemical.com - www.jostchemical.com

1.4. Emergency telephone number

Emergency number: CHEMTREC 800-424-9300

### SECTION 2: Hazard(s) identification

#### 2.1. Classification of the substance or mixture

GHS-US classification
- Not classified

#### 2.2. Label elements

GHS-US labeling
- No labeling applicable

#### 2.3. Other hazards

- No additional information available

#### 2.4. Unknown acute toxicity (GHS US)

- Not applicable

### SECTION 3: Composition/Information on ingredients

#### 3.1. Substance

Substance type: Mono-constituent

Full text of H-phrases: see section 16

#### 3.2. Mixture

- Not applicable

### SECTION 4: First aid measures

#### 4.1. Description of first aid measures

**First-aid measures general**

**First-aid measures after inhalation**
- Remove the victim into fresh air. Respiratory problems: consult a doctor/medical service.

**First-aid measures after skin contact**
- Rinse with water. Soap may be used. Take victim to a doctor if irritation persists.

**First-aid measures after eye contact**
- Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists.

**First-aid measures after ingestion**
- Rinse mouth with water. Immediately after ingestion: give lots of water to drink. Call Poison Information Centre (www.big.be/antigif.htm). Consult a doctor/medical service if you feel unwell. Ingestion of large quantities: immediately to hospital.
4.2. Most important symptoms and effects, both acute and delayed

<table>
<thead>
<tr>
<th>Symptoms/Injuries after Inhalation</th>
<th>AFTER INHALATION OF DUST: Dry/sore throat. Coughing. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the respiratory tract.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Symptoms/Injuries after Skin Contact</td>
<td>Red skin. Slight irritation.</td>
</tr>
<tr>
<td>Symptoms/Injuries after Eye Contact</td>
<td>Slight irritation.</td>
</tr>
</tbody>
</table>

4.3. Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

| Suitable Extinguishing Media | Adapt extinguishing media to the environment. |
| Unsuitable Extinguishing Media | No unsuitable extinguishing media known. |

5.2. Special hazards arising from the substance or mixture

| Fire Hazard | DIRECT FIRE HAZARD. Non combustible. INDIRECT FIRE HAZARD. Reactions involving a fire hazard: see "Reactivity Hazard". |
| Explosion Hazard | Reactions with explosion hazards: see "Reactivity Hazard". |
| Reactivity | Decomposes on exposure to temperature rise: release of toxic and corrosive gases/vapours (ammonia, nitrous vapours, sulphur oxides). Reacts with (strong) oxidizers: (increased) risk of fire/explosion. Violent exothermic reaction with (some) bases: release of toxic and corrosive gases/vapours (ammonia, sulphur oxides). |

5.3. Advice for firefighters

| Precautionary Measures | Exposure to fire/heat: keep upwind. Exposure to fire/heat: consider evacuation. Exposure to fire/heat: have neighbourhood close doors and windows. |
| Firefighting Instructions | Cool tanks/drums with water spray/remove them into safety. Dilute toxic gases with water spray. |
| Protection during firefighting | Heat/fire exposure: compressed air/oxygen apparatus. |

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures | Contain the extinguishing fluids by bunding. |

6.1.1. For non-emergency personnel


Emergency procedures | Mark the danger area. Prevent dust cloud formation, e.g. by wetting. No naked flames. Wash contaminated clothes. In case of hazardous reactions: keep upwind. In case of reactivity hazard: consider evacuation. |

Measures in case of dust release | In case of dust production: keep upwind. Dust production: have neighbourhood close doors and windows. |

6.1.2. For emergency responders

| Protective Equipment | Do not attempt to take action without suitable protective equipment. Equip cleanup crew with proper protection. For further information refer to section 8: "Exposure controls/personal protection". |

6.2. Environmental precautions

Avoid release to the environment. Prevent entry to sewers and public waters.

6.3. Methods and material for containment and cleaning up

| For Containment | Contain released substance, pump into suitable containers. Consult "Material-handling" to select material of containers. Plug the leak, cut off the supply. Knock down/dilute dust cloud with water spray. If reacting: dilute toxic gas/vapour with water spray. |
| Methods for Cleaning up | Stop dust cloud by covering with sand/earth. Scoop solid spill into closing containers. See "Material-handling" for suitable container materials. Clean contaminated surfaces with an excess of water. Wash clothing and equipment after handling. |

Other information | Dispose of materials or solid residues at an authorized site. |

6.4. Reference to other sections

For further information refer to section 13.
Ammonium sulfate
Safety Data Sheet
according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling: Comply with the legal requirements. Remove contaminated clothing immediately. Clean contaminated clothing. Thoroughly clean/dry the installation before use. Avoid raising dust. Keep away from naked flames/heat. Observe normal hygiene standards. Keep container tightly closed. Carry operations in the open/under local exhaust/ventilation or with respiratory protection.

Hygiene measures: Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures: Does not require any specific or particular technical measures.


Heat-ignition: heat sources.

Prohibitions on mixed storage: oxidizing agents. (strong) acids. (strong) bases. metals. water/moisture.

Storage area: Store in a dry area. Meet the legal requirements.

Special rules on packaging: closing, watertight, dry, clean. Secure fragile packagings in solid containers.


SECTION 8: Exposure controls/personal protection

8.1. Control parameters

<table>
<thead>
<tr>
<th>Ammonium sulfate (7783-20-2)</th>
<th>DNEL</th>
<th>DNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>&lt;= 42.667 mg/l Long-term - systemic effects, dermal</td>
<td></td>
</tr>
<tr>
<td>PNEC</td>
<td>&lt;= 0.312 mg/l aqua, freshwater</td>
<td></td>
</tr>
</tbody>
</table>

8.2. Exposure controls

Appropriate engineering controls: Ensure good ventilation of the work station. Extraction to remove dust at its source.


Materials for protective clothing: butyl rubber. neoprene. PVC.

Hand protection: Gloves.


Skin and body protection: Protective clothing.

Respiratory protection: Dust production: dust mask with filter type P1.

Environmental exposure controls: Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Physical state</th>
<th>Solid</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Crystalline solid. Powder.</td>
</tr>
<tr>
<td>Color</td>
<td>Colourless-white Unpurified: grey-brown</td>
</tr>
<tr>
<td>Odor</td>
<td>Odourless</td>
</tr>
<tr>
<td>Odor threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>pH</td>
<td>5.5 (1.3 %)</td>
</tr>
<tr>
<td>pH solution</td>
<td>1.3 %</td>
</tr>
<tr>
<td>Melting point</td>
<td>280 °C</td>
</tr>
<tr>
<td>Freezing point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Boiling point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flash point</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Relative evaporation rate (butyl acetate=1)</td>
<td>No data available</td>
</tr>
</tbody>
</table>
**Ammonium Sulfate**

**Safety Data Sheet**

according to Federal Register / Vol. 77, No. 58 / Monday, March 26, 2012 / Rules and Regulations

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**Flammability (solid, gas):** Non-flammable

**Explosion limits:** Not applicable

**Explosive properties:** No data available

**Oxidizing properties:** No data available

**Vapor pressure:** 0.000405 mPa

**Relative density:** 1.8

**Relative vapor density at 20 °C:** No data available

**Specific gravity / density:** 1.770 kg/m³

**Molecular mass:** 132.16 g/mol

**Solubility:** Soluble in water. Water: 77 g/100 ml

**Log Pow:** -5.1

**Auto-ignition temperature:** Not applicable

**Decomposition temperature:** > 280 °C

**Viscosity:** Not applicable

**Viscosity, kinematic:** Not applicable

**Viscosity, dynamic:** No data available

**Other properties:** Hygroscopic. Substance has acid reaction.

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**SECTION 10: Stability and reactivity**

**10.1. Reactivity**

Decomposes on exposure to temperature rise: release of toxic and corrosive gases/vapours (ammonia, nitrous vapours, sulphur oxides). Reacts with (strong) oxidizers: (increased) risk of fire/explosion. Violent exothermic reaction with (some) bases: release of toxic and corrosive gases/vapours (ammonia, sulphur oxides).

**10.2. Chemical stability**

Hygroscopic.

**10.3. Possibility of hazardous reactions**

No dangerous reactions known under normal conditions of use.

**10.4. Conditions to avoid**

Heat.

**10.5. Incompatible materials**


**10.6. Hazardous decomposition products**

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

---

**SECTION 11: Toxicological information**

**11.1. Information on toxicological effects**

**Acute toxicity:** Not classified

**Skin corrosion/irritation:** Not classified

**Serious eye damage/irritation:** Not classified

**Respiratory or skin sensitization:** Not classified

**Germ cell mutagenicity:** Not classified

**Carcinogenicity:** Not classified

**Reproductive toxicity:** Not classified

**Specific target organ toxicity (single exposure):** Not classified
Specific target organ toxicity (repeated exposure): Not classified
Aspiration hazard: Not classified
Symptoms/injuries after skin contact: Red skin. Slight irritation.
Symptoms/injuries after eye contact: Slight irritation.

SECTION 12: Ecological information

12.1. Toxicity
Ecology - general: The product is not considered harmful to aquatic organisms or to cause long-term adverse effects in the environment.
Ecology - air: Not classified as dangerous for the ozone layer (Regulation (EC) No 1005/2009).
Ecology - water: Mild water pollutant (surface water). Maximum concentration in drinking water: 0.50 mg/l (ammonium) (Directive 98/83/EC); 250 mg/l (sulfate) (Directive 98/83/EC). Slightly harmful to fishes (LC50(96h) 100-1000 mg/l). Slightly harmful to invertebrates (EC50: 100 - 1000 mg/l). May cause eutrophication. Insufficient data available on ecotoxicity.

12.2. Persistence and degradability
No additional information available

12.3. Bioaccumulative potential
No additional information available

12.4. Mobility in soil
No additional information available

12.5. Other adverse effects
Effect on the global warming: No known ecological damage caused by this product.

SECTION 13: Disposal considerations

13.1. Waste treatment methods
Waste treatment methods: Dispose in a safe manner in accordance with local/national regulations.
Waste disposal recommendations: Precipitate/make insoluble. Remove to an authorized dump. Do not discharge into surface water.
Additional information: LWCA (the Netherlands): KGA category 05. Can be considered as non hazardous waste according to Directive 2008/98/EC.

SECTION 14: Transport information

Department of Transportation (DOT)
In accordance with DOT
Not regulated for transport

TDG
No additional information available

Transport by sea
Proper Shipping Name (IMDG): Not regulated for transport
Class (IMDG): Not regulated for transport

Air transport
Proper Shipping Name (IATA): Not regulated for transport
Class (IATA): Not regulated for transport
### SECTION 15: Regulatory information

#### 15.1. US Federal regulations

**Ammonium sulfate (7783-20-2)**  
Listed on the United States TSCA (Toxic Substances Control Act) inventory  
This product or mixture does not contain a toxic chemical or chemicals in excess of the applicable de minimis concentration as specified in 40 CFR §372.38(a) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

#### 15.2. International regulations

**CANADA**  
**Ammonium sulfate (7783-20-2)**  
Listed on the Canadian DSL (Domestic Substances List)

**EU-Regulations**  
**Ammonium sulfate (7783-20-2)**  
Listed on the EEC inventory EINECS (European Inventory of Existing Commercial Chemical Substances)

**National regulations**  
**Ammonium sulfate (7783-20-2)**  
Listed on the AICS (Australian Inventory of Chemical Substances)  
Listed on IESCC (Inventory of Existing Chemical Substances Produced or Imported in China)  
Listed on the Korean ECL (Existing Chemicals List)  
Listed on the Japanese ENCS (Existing & New Chemical Substances) inventory  
Listed on INSO (Mexican national Inventory of Chemical Substances)  
Listed on NZIoC (New Zealand Inventory of Chemicals)  
Listed on PICCS (Philippines Inventory of Chemicals and Chemical Substances)

#### 15.3. US State regulations

**Ammonium sulfate (7783-20-2)**  
State or local regulations  
U.S. - Massachusetts - Right To Know List  
U.S. - New Jersey - Right to Know Hazardous Substance List  
U.S. - Pennsylvania - RTK (Right to Know) List

### SECTION 16: Other information

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Revision date</strong></td>
<td>: 01/25/2016</td>
</tr>
<tr>
<td><strong>NFPA health hazard</strong></td>
<td>: 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.</td>
</tr>
<tr>
<td><strong>NFPA fire hazard</strong></td>
<td>: 0 - Materials that will not burn.</td>
</tr>
<tr>
<td><strong>NFPA reactivity</strong></td>
<td>: 2 - Normally unstable and readily undergo violent decomposition but do not detonate. Also: may react violently with water or may form potentially explosive mixtures with water.</td>
</tr>
<tr>
<td><strong>HMIS III Rating</strong></td>
<td></td>
</tr>
<tr>
<td>Health</td>
<td>: 1 Slight Hazard - Irritation or minor reversible injury possible</td>
</tr>
<tr>
<td>Flammability</td>
<td>: 0 Minimal Hazard - Materials that will not burn</td>
</tr>
<tr>
<td>Physical</td>
<td>: 2 Moderate Hazard - Materials that are unstable and may undergo violent chemical changes at normal temperature and pressure with low risk for explosion. Materials may react violently with water or form peroxides upon exposure to air.</td>
</tr>
</tbody>
</table>

**SDS US (GHS HazCom 2012)**  
This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.