



21-0-0-24 Ammonium Sulfate

Safety Data Sheet

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

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Version: 2.0

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Identification

Product form : Substance
Substance name : 21-0-0-24 Ammonium Sulfate
CAS No : 7783-20-2
Formula : $(\text{NH}_4)_2\text{SO}_4$
Synonyms : actamaster / ammonium sulfate(2:1) / ammonium sulphate / diammonium sulfate / dolamin / mascagnine / mascagnite / mascagnite, natural / sulfuric acid diammonium salt
BIG no : 10683

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

Land View Inc.
20504 4th Street
Rupert, ID 83350 - USA
T 208-531-4100 - F 208-531-4069
landview@lvf.com - www.lvf.com

1.4. Emergency telephone number

Emergency number : 24 Hour Emergency HAZMAT Response (800) 229-5252: EPA National Response Center
(800) 424-8802

SECTION 2: Hazard(s) identification

2.1. Classification of the substance or mixture

Classification (GHS-US)

Aquatic Acute 3 H402 - Harmful to aquatic life
Aquatic Chronic 3 H412 - Harmful to aquatic life with long lasting effects
Full text of H-phrases: see section 16

2.2. Label elements

GHS-US labeling

Hazard statements (GHS-US) : H402 - Harmful to aquatic life
H412 - Harmful to aquatic life with long lasting effects
Precautionary statements (GHS-US) : P273 - Avoid release to the environment
P501 - Dispose of contents/container to an approved waste disposal plant

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

Name	Product identifier	%	Classification (GHS-US)
21-0-0-24 Ammonium Sulfate (Main constituent)	(CAS No) 7783-20-2	100	Aquatic Acute 3, H402 Aquatic Chronic 3, H412

Full text of H-phrases: see section 16

3.2. Mixture

Not applicable

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SECTION 4: First aid measures

4.1. Description of first aid measures

- First-aid measures general : Check the vital functions. Unconscious: maintain adequate airway and respiration. Respiratory arrest: artificial respiration or oxygen. Cardiac arrest: perform resuscitation. Victim conscious with laboured breathing: half-seated. Victim in shock: on his back with legs slightly raised. Vomiting: prevent asphyxia/aspiration pneumonia. Prevent cooling by covering the victim (no warming up). Keep watching the victim. Give psychological aid. Keep the victim calm, avoid physical strain. Depending on the victim's condition: doctor/hospital. Never give alcohol to drink.
- First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. 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. Wash skin with plenty of water.
- First-aid measures after eye contact : Rinse with water. Do not apply neutralizing agents. Take victim to an ophthalmologist if irritation persists. Rinse eyes with water as a precaution.
- 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

- Symptoms/injuries : May produce skin irritation.
- Symptoms/injuries after inhalation : AFTER INHALATION OF DUST: Dry/sore throat. Coughing. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the respiratory tract.
- Symptoms/injuries after skin contact : Red skin. Slight irritation.
- Symptoms/injuries after eye contact : Slight irritation.
- Symptoms/injuries after ingestion : Vomiting. Nausea. Diarrhoea.

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. Water spray. Dry powder. Foam.
- 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 : INDIRECT 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 fire : 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. Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

- Protective equipment : Gloves. Protective clothing. Dust cloud production: compressed air/oxygen apparatus. Reactivity hazard: compressed air/oxygen apparatus. Reactivity hazard: gas-tight suit. See "Material-Handling" to select protective clothing.
- Emergency procedures : Ventilate spillage area. 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.

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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. For further information refer to section 8 Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

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 : Recover mechanically the product. 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 8 : Exposure-controls/personal protection".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Ensure good ventilation of the work station. Wear personal protective equipment. 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

Storage conditions : Store in a well-ventilated place. Keep cool.

Incompatible products : Strong oxidizers. Strong bases.

Heat-ignition : KEEP SUBSTANCE AWAY FROM: heat sources.

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

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

Special rules on packaging : SPECIAL REQUIREMENTS: closing. watertight. dry. clean. correctly labelled. meet the legal requirements. Secure fragile packagings in solid containers.

Packaging materials : SUITABLE MATERIAL: paper. wood. textile. MATERIAL TO AVOID: copper. zinc. bronze.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

No additional information available

8.2. Exposure controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Materials for protective clothing : GIVE GOOD RESISTANCE: butyl rubber. neoprene. PVC. GIVE LESS RESISTANCE: polyethylene. styrene-butadiene rubber. nitrile rubber/PVC.

Hand protection : Gloves.

Eye protection : Safety glasses. In case of dust production: protective goggles. Safety glasses.

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

Physical state : Solid

Appearance : Crystalline solid. Powder.

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Color	: Colourless-white Unpurified: grey-brown
Odor	: Odourless
Odor threshold	: No data available
pH	: 5.5 (1.3 %)
pH solution	: 1.3 %
Melting point	: 280 °C
Freezing point	: Not applicable
Boiling point	: Not applicable
Flash point	: Not applicable
Relative evaporation rate (butyl acetate=1)	: No data available
Flammability (solid, gas)	: No data available
Explosion limits	: Not applicable
Explosive properties	: No data available
Oxidizing properties	: No data available
Vapor pressure	: No data available
Relative density	: Not applicable
Relative vapor density at 20 °C	: No data available
Specific gravity / density	: 1770 kg/m³
Molecular mass	: 132.16 g/mol
Solubility	: Soluble in water. Water: 77 g/100ml
Log Pow	: -5.1
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 280 °C
Viscosity	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available

9.2. Other information

Minimum ignition energy	: Not applicable
SADT	: Not applicable
VOC content	: 0 %
Other properties	: Hygroscopic. Substance has acid reaction.

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

None under recommended storage and handling conditions (see section 7).

10.5. Incompatible materials

Strong bases. Strong oxidizers.

10.6. Hazardous decomposition products

nitrogen oxides (NOx) and sulphur oxides.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity	: Not classified
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21-0-0-24 Ammonium Sulfate (7783-20-2)	
LD50 oral rat	2840 mg/kg (Rat)
ATE US (oral)	2840.000 mg/kg body weight

Skin corrosion/irritation	: Not classified pH: 5.5 (1.3 %)
Serious eye damage/irritation	: Not classified pH: 5.5 (1.3 %)
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 inhalation	: AFTER INHALATION OF DUST: Dry/sore throat. Coughing. ON CONTINUOUS EXPOSURE/CONTACT: Irritation of the respiratory tract.
Symptoms/injuries after skin contact	: Red skin. Slight irritation.
Symptoms/injuries after eye contact	: Slight irritation.
Symptoms/injuries after ingestion	: Vomiting. Nausea. Diarrhoea.

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general	: Harmful to aquatic life with long lasting effects. Harmful to aquatic life.
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.

21-0-0-24 Ammonium Sulfate (7783-20-2)	
LC50 fish 1	126 mg/l (96 h; Poecilia reticulata)
EC50 Daphnia 1	202 mg/l (96 h; Daphnia magna)
LC50 fish 2	250 - 480 mg/l (96 h; Brachydanio rerio)
EC50 Daphnia 2	433 mg/l (50 h; Daphnia magna)
TLM fish 1	1290 ppm (96 h; Gambusia affinis)

12.2. Persistence and degradability

21-0-0-24 Ammonium Sulfate (7783-20-2)	
Persistence and degradability	Biodegradability in water: no data available.

12.3. Bioaccumulative potential

21-0-0-24 Ammonium Sulfate (7783-20-2)	
Log Pow	-5.1
Bioaccumulative potential	Bioaccumulation: not applicable.

12.4. Mobility in soil

No additional information available

12.5. Other adverse effects

No additional information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste disposal recommendations	: Precipitate/make insoluble. Remove to an authorized dump. Do not discharge into surface water.
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- Additional information : LWCA (the Netherlands): KGA category 05. Can be considered as non hazardous waste according to Directive 2008/98/EC.
- Ecology - waste materials : Avoid release to the environment.

SECTION 14: Transport information

Department of Transportation (DOT)

- In accordance with DOT
- Not regulated for transport

TDG

- No additional information available

Transport by sea

- No additional information available

Air transport

- No additional information available

SECTION 15: Regulatory information

15.1. US Federal regulations

- No additional information available

15.2. International regulations

CANADA

- No additional information available

EU-Regulations

- No additional information available

National regulations

- No additional information available

15.3. US State regulations

- No additional information available

SECTION 16: Other information

- Revision date : 08/13/2015

Full text of H-phrases:

Aquatic Acute 3	Hazardous to the aquatic environment - Acute Hazard Category 3
Aquatic Chronic 3	Hazardous to the aquatic environment - Chronic Hazard Category 3
H402	Harmful to aquatic life
H412	Harmful to aquatic life with long lasting effects

NFPA health hazard

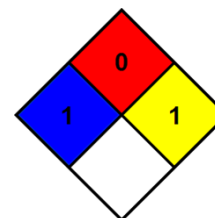
- : 1 - Exposure could cause irritation but only minor residual injury even if no treatment is given.

NFPA fire hazard

- : 0 - Materials that will not burn.

NFPA reactivity

- : 1 - Normally stable, but can become unstable at elevated temperatures and pressures or may react with water with some release of energy, but not violently.



HMIS III Rating

- Health : 0 Minimal Hazard - No significant risk to health
- Flammability : 0 Minimal Hazard - Materials that will not burn
- Physical : 0 Minimal Hazard - Materials that are normally stable, even under fire conditions, and will NOT react with water, polymerize, decompose, condense, or self-react. Non-Explosives.

SDS US (GHS HazCom 2012)

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