

FERTILIZER

1. Identification

GHS product identifier Ammonium Sulphate

Other means of identification

Product code KF_(NH4)2SO4_ZA_EN

CAS number 7783-20-2

Synonyms Sulphate of ammonia, Sulphate of ammonia (21(24+)), GAS, Granular ammonium sulphate

Recommended use Fertiliser

Recommended restrictions None known.

Manufacturer information

Company name Koch Fertilizer, LLC
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1-316-828-7672

Emergency For Chemical Emergency
Call CHEMTREC day or night
1.800.424.9300
Mexico - 1.800.681.9531
Outside USA/Canada
1.703.527.3887
(collect calls accepted)

2. Hazard(s) identification

Physical hazards Not classified.

Health hazards Not classified.

Environmental hazards Not classified.

Label elements

Hazard symbol None.

Signal word None.

Hazard statement The substance does not meet the criteria for classification.

Precautionary statements

Prevention Observe good industrial hygiene practices.

Response Wash hands after handling.

Storage Store away from incompatible materials.

Disposal Dispose of waste and residues in accordance with local authority requirements.

Other hazards which do not result in classification None known.

Supplemental information None.

3. Composition/information on ingredients**Substance****Non-hazardous components**

Chemical name	Common name and synonyms	CAS number	Content in percent (%)
Ammonium sulfate	Sulphate of ammonia, Sulphate of ammonia (21(24+)), GAS, Granular ammonium sulphate	7783-20-2	100

Composition comments All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.
This Safety Data Sheet is not a guarantee of product specification or NPK value(s). NPK content is on specified sales orders, customer invoices, or product specification sheets obtained from supplier.

4. First-aid measures

Inhalation Move to fresh air. Call a physician if symptoms develop or persist.
Skin contact Wash off with soap and water. Get medical attention if irritation develops and persists.
Eye contact Do not rub eyes. Rinse with water. Get medical attention if irritation develops and persists.
Ingestion Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed Dusts may irritate the respiratory tract, skin and eyes.
Indication of immediate medical attention and special treatment needed Treat symptomatically.
General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Foam. Dry chemical powder. Carbon dioxide (CO₂).
Unsuitable extinguishing media Do not use water jet as an extinguisher, as this will spread the fire.
Specific hazards arising from the chemical Heating may cause the release of ammonia vapors. NH₃ (16-25%) may form flammable mixtures with air. If heated beyond dryness, some hydrogen sulfide gas may be given off.
Special protective equipment and precautions for firefighters Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
Fire fighting equipment/instructions Use water spray to cool unopened containers. Move container from fire area if it can be done without risk.
Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards No unusual fire or explosion hazards noted.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Avoid inhalation of dust and contact with skin and eyes. Keep unnecessary personnel away. Wear appropriate protective equipment and clothing during clean-up. For personal protection, see section 8 of the SDS.
Methods and materials for containment and cleaning up Avoid the generation of dusts during clean-up. Collect dust using a vacuum cleaner equipped with HEPA filter. This product is miscible in water. Stop the flow of material, if this is without risk.
Large Spills: Wet down with water and dike for later disposal. Shovel the material into waste container. Following product recovery, flush area with water.
Small Spills: Sweep up or vacuum up spillage and collect in suitable container for disposal. For waste disposal, see section 13 of the SDS.
Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and storage

Precautions for safe handling Minimise dust generation and accumulation. Provide appropriate exhaust ventilation at places where dust is formed. Practice good housekeeping.
Conditions for safe storage, including any incompatibilities Store in original tightly closed container. Store in a well-ventilated place. Packaging materials: stainless steel, synthetic. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits No exposure limits noted for ingredient(s).
Biological limit values No biological exposure limits noted for the ingredient(s).
Exposure guidelines Follow standard monitoring procedures.
Appropriate engineering controls Provide adequate ventilation. The risk of inhalation of dust must be minimised as much as possible.
Individual protection measures, such as personal protective equipment
Eye/face protection Risk of contact: Wear dust goggles.
Skin protection
Hand protection Risk of contact: Wear protective gloves (4-8h break through time). Rubber gloves are recommended. Suitable gloves can be recommended by the glove supplier.

Other	Normal work clothing (long sleeved shirts and long pants) is recommended.
Respiratory protection	If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn. Wear air supplied respiratory protection if exposure concentrations are unknown. In case of inadequate ventilation or risk of inhalation of dust, use suitable respiratory equipment with particle filter.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties

Appearance

Physical state	Solid.
Form	Crystals. Granules.
Colour	White.
Odour	Odourless.
Odour threshold	Not available.
pH	5 - 6 (Concentration 5%)
Melting point/freezing point	> 235 °C (> 455 °F) (Decomposes.)
Initial boiling point and boiling range	Not applicable.
Flash point	Not applicable.
Evaporation rate	Not applicable.
Flammability (solid, gas)	Non flammable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapour pressure	Not available.
Vapour density	> 1 (Air = 1)
Relative density	Not available.
Solubility(ies)	
Solubility (water)	76g / 100 ml (20°C). Easily soluble in cold water.
Partition coefficient (n-octanol/water)	-5.1 at 25 °C
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Explosive properties	Not explosive.
Flammability	Not applicable.
Molecular formula	(N-H4)2-S-O4
Molecular weight	132.16
Oxidising properties	Not oxidising.

10. Stability and reactivity

Reactivity	The product is non-reactive under normal conditions of use, storage and transport.
Chemical stability	Stable at normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Avoid dust formation. Exposure to heat and contact with sources of ignition.
Incompatible materials	Acids. Bases. Oxidizing agents. Metals.

Hazardous decomposition products Sulphur oxides. Ammonia. Nitrogen oxides (NOx).

11. Toxicological information

Information on likely routes of exposure

Inhalation Dust may irritate respiratory system.
Skin contact Dust or powder may irritate the skin.
Eye contact Dust may irritate the eyes.
Ingestion May cause discomfort if swallowed.

Symptoms related to the physical, chemical and toxicological characteristics Dusts may irritate the respiratory tract, skin and eyes.

Information on toxicological effects

Acute toxicity May cause discomfort if swallowed.

Product	Species	Test Results
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Ammonium sulfate (CAS 7783-20-2)

Acute

Inhalation

LC50	Rat	> 1000 mg/m ³ , 8 hours
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Oral

LD50	Rat	2840 mg/kg
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Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Serious eye damage/eye irritation Direct contact with eyes may cause temporary irritation.

Respiratory or skin sensitisation

Respiratory sensitisation Not a respiratory sensitiser.

Skin sensitisation This product is not expected to cause skin sensitisation.

Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity Not classifiable as to carcinogenicity to humans.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

Product	Species	Test Results
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Ammonium sulfate (CAS 7783-20-2)

Fish	LC50	Salmo gairdneri	173 mg/l, 96 hours
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Aquatic

Algae	EC50	Chlorella vulgaris	2700 mg/l, 18 days
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Crustacea	EC50	Water flea (Daphnia magna)	> 100 mg/l, 96 hours
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Persistence and degradability There is no evidence for photodegradation of ammonium sulfate. However, ammonium sulfate may be formed in atmospheric aerosols. The product itself and its products of degradation are not toxic.

Bioaccumulative potential Not expected to bioaccumulate on the basis of the low octanol-water partition coefficient.

Mobility in soil This product is water soluble and may disperse in soil.

Mobility in general The product is water soluble and may spread in water systems.

Other adverse effects It is recommended that the use of ammonium sulfate as a fertilizer is taken into account when assessing the exposure of nitrite and nitrate to humans through drinking water.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site.

Local disposal regulations Dispose in accordance with all applicable regulations.

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Waste from residues / unused products

Dispose of in accordance with all applicable regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner.

Contaminated packaging

Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information**ADR**

Not regulated as dangerous goods.

RID

Not regulated as dangerous goods.

IATA

Not regulated as dangerous goods.

IMDG

Not regulated as dangerous goods.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

15. Regulatory information**Safety, health and environmental regulations specific for the product in question**

This product is classified in accordance with SANS 10234: 2008 – Globally Harmonized System of Classification and Labeling of Chemicals (GHS)

Hazardous Substances Act, 1973 (Act No. 15 of 1973)

Not listed.

International regulations**Stockholm Convention**

Not applicable.

Rotterdam Convention

Not applicable.

Montreal Protocol

Not applicable.

Kyoto Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

Country(s) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	Yes
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
China	Inventory of Existing Chemical Substances in China (IECSC)	Yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
Japan	Inventory of Existing and New Chemical Substances (ENCS)	Yes
Korea	Existing Chemicals List (ECL)	Yes
New Zealand	New Zealand Inventory	Yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	Yes
Taiwan	Taiwan Chemical Substance Inventory (TCSI)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*A "Yes" indicates this product complies with the inventory requirements administered by the governing country(s).

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

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Disclaimer

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