

SAFETY DATA SHEET

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

1.1. Product identifier

Name of the substance	Ammonium nitrate
Identification number	CAS number: 6484-52-2
Synonyms	Nitric Acid Ammonium Salt, Ammonium Nitrate Fertilizer
SDS number	AN1417F_EN
Issue date	February 25, 2015
Version number	02
Revision date	March 1, 2018
Supersedes date	February 25, 2015

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

Identified uses: Fertilizer.

Uses advised against: None known.

1.3. Details of the supplier of the safety data sheet

Company name	Chemical Store Inc.
Address	1059 Main Avenue, Clifton, NJ 07011 USA
Telephone	1-973-405-6248
E-mail	info@ChemicalStore.com
Website	www.ChemicalStore.com

1.4. Emergency telephone number

For Chemical Emergency 1-973-420-4972

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The substance has been assessed and/or tested for its physical, health and environmental hazards and the following classification applies.

Classification according to Directive 67/548/EEC or

1999/45/EC as amended Classification O;R8, Xi;R36

Classification according to Regulation (EC) No 1272/2008 as amended

Physical hazards

Oxidizing solids Category 3 H272 - May intensify fire; oxidizer.

Health hazards

Serious eye damage/eye irritation Category 2 H319 - Causes serious eye irritation.

Hazard summary

Physical hazards	Contact with combustible material may cause fire.
Health hazards	Irritating to eyes.
Environmental hazards	Not classified for hazards to the environment.

Specific hazards Dust may irritate skin and the respiratory system. May cause discomfort if swallowed.

Main symptoms May cause redness and pain. Cough.

2.2. Label elements

Label according to Regulation (EC) No.

1272/2008 as amended Contains:

Ammonium nitrate

Hazard pictograms:



Signal word Warning

Hazard statements

H272 May intensify fire; oxidizer.
H319 Causes serious eye irritation.

Precautionary statements

Prevention

P210 Keep away from heat.
P220 Keep/Store away from clothing and other combustible materials.
P264 Wash thoroughly after handling.
P221 Take any precaution to avoid mixing with combustibles.
P280 Wear protective gloves/protective clothing/eye protection/face protection.

Response

P370 + P378 In case of fire: Use foam, carbon dioxide, dry powder or water fog for extinction.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 If eye irritation persists: Get medical advice/attention.

Storage

Store away from incompatible materials.

Disposal

P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

Supplemental label information None.

2.3. Other hazards None known.

SECTION 3: Composition/information on ingredients

3.1. Substances General information

Chemical name	%	CAS-No. / EC No.	REACH Registration No.	INDEX No.	Notes
Ammonium nitrate	>98.8	6484-52-2 229-347-8	01-2119490981-27-XXXX	-	

Classification: **DSD:** O;R8, Xi;R36
 CLP: Ox. Sol. 3;H272, Eye Irrit. 2;H319

List of abbreviations and symbols that may be used above

DSD: Directive
67/548/EEC.
CLP: Regulation No.
1272/2008.

Composition comments

The full text for all R- and H-phrases is displayed in section 16. 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.

SECTION 4: First aid measures

General information

Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves.

4.1. Description of first aid measures

Inhalation

Move person to fresh air. Get medical attention if any discomfort continues.

Skin contact

persists.

Wash off with plenty of water. Get medical attention if irritation develops or

Eye contact

attention.

Do not rub eye. Flush thoroughly with water for at least 15 minutes. Get medical

Ingestion

discomfort occurs.

Rinse mouth thoroughly if dust is ingested. Get medical attention if any

4.2. Most important symptoms and effects, both acute and delayed

May cause redness and pain. Cough.

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

Treat symptomatically.

SECTION 5: Firefighting measures

General fire hazards

May intensify fire; oxidiser.

5.1. Extinguishing media

Suitable extinguishing media

Use fire-extinguishing media appropriate for surrounding materials.

Unsuitable extinguishing media

Dry chemical. Carbon dioxide (CO₂).

5.2. Special hazards arising from the substance or mixture

Explosion risk in case of fire.

5.3. Advice for firefighters Special protective equipment for firefighters

Selection of respiratory protection for firefighting: follow the general fire precautions indicated in the workplace. Self-contained breathing apparatus, operated in positive pressure mode and full protective clothing must be worn in case of fire.

Special fire fighting procedures

Move container from fire area if it can be done without risk.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Avoid inhalation of dust. Avoid contact with skin and eyes. Avoid generation and spreading of dust. Wear protective clothing as described in section 8 of this safety data sheet.

For emergency responders

Avoid inhalation of dust.

6.2. Environmental precautions

Prevent further leakage or spillage if safe to do so.

6.3. Methods and material for containment and cleaning up

Stop the flow of material, if this is without risk. Collect and dispose of spillage as indicated in section 13 of the SDS. Prevent entry into waterways, sewer, basements or confined areas. Collect spill using a vacuum cleaner with a

HEPA filter. Place in a designated labeled waste container, dispose as hazardous waste. Flush area with plenty of water.

6.4. Reference to other sections

For personal protection, see section 8 of the SDS. For waste disposal, see section 13 of the SDS.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Avoid generation and spreading of dust. Avoid inhalation of dust and contact with skin and eyes. Use with adequate ventilation. Observe good industrial hygiene practices.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in a cool, dry, well-ventilated place. Packaging materials: stainless steel, synthetic. Store away from incompatible materials (see section 10 of the SDS).

7.3. Specific end use(s) Fertilizer

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits No exposure limits noted for ingredient(s).

Biological limit values No biological exposure limits noted for the ingredient(s).

Recommended monitoring procedures

Follow standard monitoring procedures.

Derived no-effect level (DNEL)

Material	Type	Route	Value	Form
Ammonium nitrate (CAS 6484-52-2)	General Population	Dermal	12.8 mg/kg/day	Long-term - systemic effects
		Inhalation	11.1 mg/m3	Long-term - systemic effects
		Oral	12.8 mg/kg/day	Long-term - systemic effects
	Workers	Dermal	21.3 mg/kg/day	Long-term - systemic effects
		Inhalation	37.6 mg/m3	Long-term - systemic effects

Predicted no effect concentrations (PNECs)

Material	Type	Route	Value	Form
Ammonium nitrate (CAS 6484-52-2)	Aqua (freshwater)	Water	0.45 mg/l	
	Aqua (intermittent releases)	Not applicable	4.5 mg/l	
	Aqua (marine water)	Water	0.045 mg/l	
	Sewage Treatment Plant	Not applicable	18 mg/l	

8.2. Exposure controls

Appropriate engineering controls

Provide adequate ventilation. The risk of inhalation of dust must be minimized as much as possible.

Individual protection measures, such as personal protective equipment

General information Personal protective equipment should be chosen according to the CEN standards and in discussion with the supplier of the 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	No skin protection is ordinarily required under normal conditions of use. In accordance with good industrial hygiene practices, precautions should be taken to avoid skin contact.
Respiratory protection	Seek advice from local supervisor. In case of inadequate ventilation use suitable respirator. Use respiratory equipment with particle filter, type P2. 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.
Thermal hazards	Wear appropriate thermal protective clothing, when necessary.
Hygiene measures	Handle in accordance with good industrial hygiene and safety practices. Wash hands after handling. Always wash hands thoroughly before eating, drinking or smoking.

Environmental exposure controls

Not available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties Appearance

Physical state	Solid.
Form	Solid.
Color	Transparent to white.
Odor	Odorless.
Odor threshold	Not available.
pH	5.4 0.1 molar aqueous solution
Melting point/freezing point	-169.6 °C (-273.28 °F) @ 1013 hPa
Initial boiling point and boiling range	> 210 °C (> 410 °F)
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.
Vapour pressure	Negligible.
Vapour density	Not applicable.
Relative density	1.72 @ (20°C)
Solubility(ies)	> 100 g/l
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.

Decomposition temperature	< 210 °C (< 410 °F) (When heated to decomp emits highly toxic fumes of nitrogen oxides).
Viscosity	Not applicable.
Explosive properties	Not explosive.
Oxidizing properties	Oxidizing.
9.2. Other information	
Bulk density	850 - 1000 kg/m ³
Molecular formula	H ₄ -N ₂ -O ₃
Molecular weight	80.06 g/mol

SECTION 10: Stability and reactivity

10.1. Reactivity	Oxidizing, avoid contact with reducing agents.
10.2. Chemical stability	May explode under confinement and high temperature but not readily detonated. When molten may decompose violently due to shock or pressure. Hygroscopic: absorbs moisture or water from surrounding air.
10.3. Possibility of hazardous reactions	
Reacts with organic materials and reducing agents.	
10.4. Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Protect against direct sunlight. Heat may cause the containers to explode. Minimize dust generation and accumulation. Keep away from combustible material. Keep away from incompatible material. The substance is hygroscopic and will absorb water by contact with the moisture in the air.
10.5. Incompatible materials	Combustible material. Strong reducing agents. Tetranitromethane, dichloroisocyanuric acid, trichloroisocyanuric acid, any bromate, chlorate, chlorite, hypochlorite, perchlorate, chloroisocyanurate, any inorganic nitrite, and metal powders.
10.6. Hazardous decomposition products	
Nitrogen oxides. Ammonia.	

SECTION 11: Toxicological information

General information	Occupational exposure to the substance or mixture may cause adverse effects.
Information on likely routes of exposure	
Inhalation	High concentrations of dust and fumes may irritate the throat and respiratory system and cause coughing.
Skin contact	Dust may irritate skin.
Eye contact	Causes serious eye irritation.
Ingestion	May cause discomfort if swallowed.
Symptoms	May cause redness and pain. Cough.
11.1. Information on toxicological effects	
Acute toxicity	May cause discomfort if swallowed.

Product

Ammonium nitrate (CAS 6484-52-2)

Acute	Species	Test results
<i>Dermal</i>		
LD50	Rabbit	> 5000 mg/kg
<i>Inhalation</i>		
LC50	Rat	> 88.8 mg/l, 4 Hours
<i>Oral</i>		
LD50	Rat	2950 mg/kg

Skin corrosion/irritation May cause skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory sensitization Not classified.

Skin sensitization Not classified.

Germ cell mutagenicity Not classified.

Carcinogenicity This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.

Reproductive toxicity Not classified.

Specific target organ toxicity - single exposure

Specific target organ toxicity - repeated exposure

Not classified. Not classified.

Aspiration hazard Not classified.

Mixture versus substance information

Not available.

Other information No other specific acute or chronic health impact noted.

SECTION 12: Ecological information

12.1. Toxicity 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
Ammonium nitrate (CAS 6484-52-2)			
Aquatic			
Algae	EC50	Algae	> 1700 mg/l, 10 days
Crustacean	EC50	Daphnia magna	490 mg/l, 48 hours
Fish	LC50	Carp (Cyprinus carpio)	447 mg/l, 48 hours

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential No data available.

**Partition coefficient
n-octanol/water (log Kow)**

Not available.

Bioconcentration factor (BCF) Not available.

12.4. Mobility in soil Not available.

12.5. Results of PBT and vPvB assessment

Not a PBT or vPvB substance or mixture.

12.6. Other adverse effects Not available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Residual waste Dispose of in accordance with local regulations.

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied.

EU waste code The Waste code should be assigned in discussion between the user, the producer and the waste disposal company.

Disposal methods/information Dispose in accordance with all applicable regulations.

SECTION 14: Transport information

ADR

14.1. UN number	UN2067
14.2. UN proper shipping name	AMMONIUM NITRATE
14.3. Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
Hazard No. (ADR)	50
Tunnel restriction code	E
14.4. Packing group	III
14.5. Environmental hazards	No
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

RID

14.1. UN number	UN2067
14.2. UN proper shipping name	AMMONIUM NITRATE
14.3. Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
14.4. Packing group	III
14.5. Environmental hazards	No
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

ADN

14.1. UN number	UN2067
14.2. UN proper shipping name	Ammonium Nitrate Fertilizer
14.3. Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
14.4. Packing group	III
14.5. Environmental hazards	No
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IATA

14.1. UN number	UN2067
14.2. UN proper shipping name	Ammonium nitrate based fertilizer
14.3. Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
14.4. Packing group	III
14.5. Environmental hazards	No
ERG Code	5L
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

IMDG

14.1. UN number	UN2067
14.2. UN proper shipping name	AMMONIUM NITRATE
14.3. Transport hazard class(es)	
Class	5.1
Subsidiary risk	-
Label(s)	5.1
14.4. Packing group	III
14.5. Environmental hazards	
Marine pollutant	No
EmS	F-H, S-Q
14.6. Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	
	Not applicable. However, the product is covered under Appendix I of the IMSBC Code

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture EU regulations

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex I

Not listed.

Regulation (EC) No. 1005/2009 on substances that deplete the ozone layer, Annex II

Not listed.

Regulation (EC) No. 850/2004 On persistent organic pollutants, Annex I as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 1 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 2 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex I, part 3 as amended

Not listed.

Regulation (EC) No. 689/2008 concerning the export and import of dangerous chemicals, Annex V as amended

Not listed.

Regulation (EC) No. 166/2006 Annex II Pollutant Release and Transfer Registry

Not listed.

Regulation (EC) No. 1907/2006, REACH Article 59(10) Candidate List as currently published by ECHA

Not listed.

Authorisations

Regulation (EC) No. 1907/2006, REACH Annex XIV Substances subject to authorisation, as amended

Not listed.

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Not listed.

Restrictions on use

Regulation (EC) No. 1907/2006, REACH Annex XVII Substances subject to restriction on marketing and use as amended

Ammonium nitrate (CAS 6484-52-2)

Directive 2004/37/EC: on the protection of workers from the risks related to exposure to carcinogens and mutagens at work

Not listed.

Directive 92/85/EEC: on the safety and health of pregnant workers and workers who have recently given birth or are breastfeeding

Not listed.

Other EU regulations

Directive 96/82/EC (Seveso II) on the control of major-accident hazards involving dangerous substances

Not listed.

Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

Not listed.

Directive 94/33/EC on the protection of young people at work

Not listed.

Other regulations

The product is classified and labelled in accordance with Regulation (EC) 1272/2008 (CLP Regulation) as amended and respective national laws implementing EC directives. This Safety Data Sheet complies with the requirements of Regulation (EC) No 1907/2006.

National regulations

Follow national regulation for work with chemical agents.

15.2. Chemical safety assessment

Chemical Safety Assessment has been carried out.

SECTION 16: Other information

List of abbreviations

DNEL: Derived No-Effect Level.

PNEC: Predicted No-Effect Concentration.

References

Not available.

Information on evaluation method leading to the classification of mixture

The classification for health and environmental hazards is derived by a combination of calculation methods and test data, if available.

Full text of any statements or R-phrases and H-statements under Sections 2 to 15

R36 Irritating to eyes.

R8 Contact with combustible material may cause fire.

H272 May intensify fire; oxidiser.

H319 Causes serious eye irritation.

Training information

Follow training instructions when handling this material.

Disclaimer

NOTICE: The information presented herein is based on data considered to be accurate as of the date of preparation of this Safety Data Sheet (SDS) and was prepared pursuant to Government regulation(s) that identify specific types of information to be provided. This SDS may not be used as a commercial specification sheet of manufacturer or seller, and no warranty or representation, expressed or implied, is made as to the accuracy or comprehensiveness of the foregoing data and safety information, nor is any authorization given or implied to practice any patented invention without a license. Additional information may be needed to evaluate other uses of the product, including use of the product in combination with any materials or in any processes other than those specifically referenced. Information provided herein with respect to any hazards that may be associated with the product is not meant to suggest that use of the product in a given application will necessarily result in any exposure or risk to workers or the general public. No responsibility can be assumed by vendor for any damage or injury resulting from abnormal use, from any failure to adhere to recommended practices, or from any hazards inherent in the nature of the product.

Purchasers and users assume all risk of use, storage and handling of the product in compliance with applicable federal, state and local laws and regulations. Purchasers and users of the product specifically should advise all of their employees, agents, contractors and customers who will use the product of this (M)SDS.