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

· **1.1 Product identifier**

· **Trade name: Ammonium nitrate**

· **Article number:** 2667
· **CAS Number:**
6484-52-2
· **EC number:**
229-347-8
· **Registration number** 01-2119490981-27-XXXX
· **1.2 Relevant identified uses of the substance or mixture and uses advised against**
· **Life cycle stages**
F Formulation or re-packing
IS Use at industrial Sites
· **Sector of Use**
SU9 Manufacture of fine chemicals
SU3 Industrial uses: Uses of substances as such or in preparations at industrial sites
SU10 Formulation [mixing] of preparations and/or re-packaging (excluding alloys)
SU24 Scientific research and development
· **Product category**
PC19 Intermediate
PC20 Processing aids such as pH-regulators, flocculants, precipitants, neutralization agents
PC21 Laboratory chemicals
PC29 Pharmaceuticals
PC39 Cosmetics, personal care products
PC40 Extraction agents
· **Process category**
PROC1 Chemical production or refinery in closed process without likelihood of exposure or processes with equivalent containment conditions.
PROC2 Chemical production or refinery in closed continuous process with occasional controlled exposure or processes with equivalent containment conditions
PROC3 Manufacture or formulation in the chemical industry in closed batch processes with occasional controlled exposure or processes with equivalent containment condition
PROC4 Chemical production where opportunity for exposure arises
PROC5 Mixing or blending in batch processes
PROC9 Transfer of substance or mixture into small containers (dedicated filling line, including weighing)
PROC15 Use as laboratory reagent
· **Environmental release category**
ERC1 Manufacture of the substance
ERC2 Formulation into mixture
ERC4 Use of non-reactive processing aid at industrial site (no inclusion into or onto article)
ERC6a Use of intermediate
· **Application of the substance / the mixture**
Industrial use
Laboratory chemicals
Reagent for analysis

· **1.3 Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Th. Geyer GmbH & Co. KG
Dornierstr. 4 – 6
D-71272 Renningen

Tel.: +49(0)7159-1637-0, Fax:+49 (0)7159/18417
www.thgeyer.de

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sicherheitsdatenblaetter@thgeyer.de

· **Further information obtainable from:** Product management department

· **1.4 Emergency telephone number:**
National Poisons Information Service
City Hospital
Dudley Road
Birmingham B18 7QH
Tel.:Emergency: (00 44) 87 06 00 62 66
Members of the public seeking specific information on poisons should contact:
In England and Wales: NHS 111 - dial 111
In Scotland: NHS 24 - dial 111

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SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**
· **Classification according to Regulation (EC) No 1272/2008**


GHS03 flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.

· **2.2 Label elements**
· **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the GB CLP regulation.
· **Hazard pictograms**


GHS03

· **Signal word** Danger
· **Hazard statements**
H272 May intensify fire; oxidiser.
· **Precautionary statements**
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.
· **2.3 Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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SECTION 3: Composition/information on ingredients

· **3.1 Substances**
· **CAS No. Description**
CAS: 6484-52-2 Ammoniumnitrat
· **Identification number(s)**
· **EC number:** 229-347-8

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SECTION 4: First aid measures

· **4.1 Description of first aid measures**
· **General information:**
First aider needs to protect himself.
Immediately remove any clothing soiled by the product.
· **After inhalation:**
Remove person from danger area.
Supply fresh air.
In case of pulmonary irritation, administer glucocorticoid metered dose inhaler
Call a doctor immediately.
· **After skin contact:**
Flush contaminated skijn with soap and plenty of water.
After prolonged contact or any signs of skin changes (redness or other signs of inflammation) seek medical attention.
take care of a Possiblility of inhalation at the same time
· **After eye contact:**
Protect unharmed eye.
Rinse out opened eye for several minutes under running water.
Call a doctor immediately.
· **After swallowing:**
Rinse mouth thoroughly with water.
Make vicitim drink water (two glasses at most).
Call emergency doctor
Induce vomiting, if person is conscious. Seek medical help.
· **Information for doctor:** Please observe safety data sheet/label.
· **4.2 Most important symptoms and effects, both acute and delayed**
Gastric or intestinal disorders
Cramp
· **Hazards**
Danger of pulmonary oedema.
Danger of impaired breathing.
· **4.3 Indication of any immediate medical attention and special treatment needed**
If swallowed, induce vomiting (if patient is conscious).
Monitor circulation.
Give Glucocorticoid-Aerosol in case of lung irritation.
Later observation for pneumonia and pulmonary oedema.
If necessary oxygen respiration treatment.

SECTION 5: Firefighting measures

· **5.1 Extinguishing media**
· **Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.
· **For safety reasons unsuitable extinguishing agents:** Water with full jet.
· **5.2 Special hazards arising from the substance or mixture**
In case of fire, the following can be released:
Nitrogen oxides (NOx)
Ambient fire may liberate hazardous vapours.
The product is oxidising.
During heating or in case of fire poisonous gases are produced.
· **5.3 Advice for firefighters**
· **Protective equipment:**
Mouth respiratory protective device.
Wear self-contained respiratory protective device.
Do not inhale explosion gases or combustion gases.
· **Additional information**
Cool endangered receptacles with water spray.
Dispose of fire debris and contaminated fire fighting water in accordance with official regulations.

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Prevent fire extinguishing water from contaminating surface water or the ground water system.

SECTION 6: Accidental release measures

· **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Avoid contact with eyes and skin.
Consult an expert.
Provide adequate ventlilation and do not vapors, dust or gases.
Mount respiratory protective device.
Wear protective equipment. Keep unprotected persons away.
· **6.2 Environmental precautions:** Do not allow to enter sewers/surface or ground water.
· **6.3 Methods and material for containment and cleaning up:**
Dispose of the material collected according to regulations.
· **6.4 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.

SECTION 7: Handling and storage

· **7.1 Precautions for safe handling**
Store in cool, dry place in tightly closed receptacles.
Keep away from heat and direct sunlight.
Apply the general protection and hygiene measures for the handling with chemicals.
· **Information about fire - and explosion protection:**
Keep ignition sources away - Do not smoke.
Protect from heat.
Keep respiratory protective device available.

· **7.2 Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Prevent any seepage into the ground.
Store only in the original receptacle.
· **Information about storage in one common storage facility:**
Store away from flammable substances.
Store away from oxidising agents.
Do not store together with textiles.
Store away from water.
· **Further information about storage conditions:**
Store in dry conditions.
Protect from humidity and water.
Protect from heat and direct sunlight.
· **Storage class:** 5.1 C
· **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

· **8.1 Control parameters**
· **Additional information about design of technical facilities:** No further data; see item 7.
· **Ingredients with limit values that require monitoring at the workplace:** Not required.
· **Additional information:** The lists valid during the making were used as basis.

· **8.2 Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:** Wash hands before breaks and at the end of work.

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· **Respiratory protection:** Not necessary if room is well-ventilated.
· **Protection of hands:**

Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
· **Material of gloves**
Information on suitable glove materials is not available at present.
However, experience has shown that the glove materials polychloroprene, nitrile rubber, butyl rubber, fluororubber and polyvinyl chloride are suitable for protection against undissolved solids.
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Eye protection:**

Safety glasses

· **Body protection:**

Protective work clothing (e. g. safety shoes EN ISO 20345, long-sleeved protective working garments).

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SECTION 9: Physical and chemical properties

· **9.1 Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Crystalline
Colour:	Colourless
· **Odour:**	Odourless
· **pH-value:**	4.5–7 2,0 - 4,0 (Solution 10%, potentiometric)
· **Change in condition**	
Melting point/freezing point:	169 °C
Initial boiling point and boiling range:	302 °C
· **Flash point:**	Not applicable.
· **Flammability (solid, gas):**	Contact with combustible material may cause fire.
· **Decomposition temperature:**	> 170 °C
· **Auto-ignition temperature:**	Not determined.
· **Explosive properties:**	Product does not present an explosion hazard. Explosive when mixed with combustible material.
· **Explosion limits:**	
Lower:	Not determined.

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Upper:	Not determined.
· **Vapour pressure:**	Not applicable.
· **Density at 20 °C:**	1.72 g/cm³ Not determined.
· **Bulk density:**	700 kg/m³
· **Relative density**	Not determined.
· **Vapour density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with water at 20 °C:**	1877 g/l
· **Partition coefficient: n-octanol/water:**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **9.2 Other information**	No further relevant information available.

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SECTION 10: Stability and reactivity

· **10.1 Reactivity** No further relevant information available.
· **10.2 Chemical stability** Stable with proper storage and handling.
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **10.3 Possibility of hazardous reactions**
Danger of explosion.
Reacts with various metals.
Reacts with acids, alkalis and oxidising agents.
Reacts with light alloys in the presence of moisture to form hydrogen.
Reacts with alkaline metals.
Reacts with powdered metals.
· **10.4 Conditions to avoid**
Heat, flames and sparks
Protect from humidity.
· **10.5 Incompatible materials:**
Keep away from combustible material. Acids, Peroxides, Reducing agents, combustible material, powdered metals, hydrochloric acid.
Avoid contact with other chemicals.
· **10.6 Hazardous decomposition products:**
In case of fire / burns, development of hazardous combustion gases or vapors possible.
Nitrogen oxides
Nitrogen oxides (NOx)

SECTION 11: Toxicological information

· **11.1 Information on toxicological effects**
· **Acute toxicity** Based on available data, the classification criteria are not met.

· **LD/LC50 values relevant for classification:**		
Oral	LD50	2,217 mg/kg (rat)

· **Primary irritant effect:**
· **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
· **Serious eye damage/irritation** Based on available data, the classification criteria are not met.
· **Respiratory or skin sensitisation** Based on available data, the classification criteria are not met.

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· **Additional toxicological information:**
· **CMR effects (carcinogenity, mutagenicity and toxicity for reproduction)**
· **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.

SECTION 12: Ecological information

· **12.1 Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **12.2 Persistence and degradability** Easily biodegradable
· **12.3 Bioaccumulative potential** No further relevant information available.
· **12.4 Mobility in soil** No further relevant information available.
· **Additional ecological information:**
· **General notes:**
Water hazard class 1 (German Regulation) (Assessment by list): slightly hazardous for water
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
· **12.5 Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**
Observe local (country-specific) regulations and laws
This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Recommendation**
Must not be disposed together with household garbage. Do not allow product to reach sewage system.
Chemicals must be disposed of in compliance with the respective national regulations.

· **European waste catalogue**	
06 00 00	WASTES FROM INORGANIC CHEMICAL PROCESSES
06 13 00	wastes from inorganic chemical processes not otherwise specified
06 13 99	wastes not otherwise specified
HP2	Oxidising

· **Uncleaned packaging:**
· **Recommendation:** Disposal must be made according to official regulations.
· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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SECTION 14: Transport information

· **14.1 UN-Number**	
· **ADR, IMDG, IATA**	UN1942
· **14.2 UN proper shipping name**	
· **ADR**	1942 AMMONIUM NITRATE
· **IMDG, IATA**	AMMONIUM NITRATE

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· **14.3 Transport hazard class(es)**

· **ADR**

· **Class**	5.1 (O2) Oxidising substances.
· **Label**	5.1

· **IMDG, IATA**

· **Class**	5.1 Oxidising substances.
· **Label**	5.1

· **14.4 Packing group**	
· **ADR, IMDG, IATA**	III
· **14.5 Environmental hazards:**	Not applicable.
· **14.6 Special precautions for user**	Warning: Oxidising substances.
· **Hazard identification number (Kemler code):**	50
· **EMS Number:**	5.1-06
· **Segregation groups**	(SGG2) Ammonium compounds
· **Stowage Category**	C
· **Stowage Code**	SW1 Protected from sources of heat. SW14 Category A only if the special stowage provisions of 7.4.1.4 and 7.6.2.8.4 are complied with SW23 When transported in BK3 bulk container, see 7.6.2.12 and 7.7.3.9.
· **Segregation Code**	SG16 Stow "separated from" class 4.1 SG42 Stow "separated from" SGG3-bromates. SG45 Stow "separated from" SGG4-chlorates. SG47 Stow "separated from" SGG5-chlorites. SG48 Stow "separated from" combustible material (particularly liquids). Combustible material does not include packing materials or dunnage. SG51 Stow "separated from" SGG8-hypochlorites SG56 Stow "separated from" SGG12-nitrites SG58 Stow "separated from" SGG13-perchlorates SG59 Stow "separated from" SGG14-permanganates SG61 Stow "separated from" SGG15-powdered metals
· **14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**	Not applicable.
· **Transport/Additional information:**	
· **ADR**	
· **Limited quantities (LQ)**	5 kg
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· **Transport category**	3
· **Tunnel restriction code**	E

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· **IMDG**	
· **Limited quantities (LQ)**	5 kg
· **Excepted quantities (EQ)**	Code: E1 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 1000 g
· **UN "Model Regulation":**	UN 1942 AMMONIUM NITRATE, 5.1, III

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SECTION 15: Regulatory information

· **15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Inventory of Hazardous Chemicals**	
CAS: 6484-52-2	Ammoniumnitrat

· **Directive 2012/18/EU**
· **Named dangerous substances - ANNEX I** Substance is listed.
· **Qualifying quantity (tonnes) for the application of lower-tier requirements** 350 t
· **Qualifying quantity (tonnes) for the application of upper-tier requirements** 2,500 t
· **REGULATION (EC) No 1907/2006 ANNEX XVII** Conditions of restriction: 65
· **DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II**
Substance is not listed.
· **REGULATION (EU) 2019/1148**
· **Annex I - RESTRICTED EXPLOSIVES PRECURSORS (Upper limit value for the purpose of licensing under Article 5(3))**
Limit value: >45.7 %, No licensing permitted
· **Annex II - REPORTABLE EXPLOSIVES PRECURSORS** Substance is not listed.
· **Regulation (EC) No 273/2004 on drug precursors** Substance is not listed.
· **Regulation (EC) No 111/2005 laying down rules for the monitoring of trade between the Community and third countries in drug precursors**
Substance is not listed.

· **National regulations:**

· **Information about limitation of use:**
Employment restrictions concerning juveniles must be observed.
Employment restrictions concerning pregnant and lactating women must be observed.
· **15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

SECTION 16: Other information

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.
Application, use and handling of our products take place out of our control and are solely your responsibility.

· **Department issuing SDS:** Product management
· **Contact:** Product management
· **Abbreviations and acronyms:**
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonised System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
Ox. Sol. 2: Oxidizing solids – Category 2
· *** Data compared to the previous version altered.**