

SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006



Date of issue: 09.10.2013

Revision date: 13.01.2017

Version: 2.2

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY / UNDERTAKING

1.1 Product identifiers

Product name:	Ammonium nitrate (double labeled N-15)
EC-No. (non-labeled):	229-347-8
CAS-No. (non-labeled):	6484-52-2
CAS-No.(labeled):	43086-60-8
Index No.:	---
REACH Registration no.:	Not required

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

Identified uses: Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Supplier:	NUKEM Isotopes GmbH, Industriestrasse 13, 63755 Alzenau, Germany
Telephone:	+49 (0)6023 91 1726
Telefax:	+49 (0)6023 91 1614
Email:	Christian.Schuch@nukemisotopes.de

1.4 Emergency telephone number

24 hr. Emergency Telephone: **+1-703-253-4254** (English / Contract No.: 01009)

2. HAZARDS INDICATION

2.1 Classification of the substance or mixture

Classification according to regulation (EC) No. 1272/2008

Oxidizing solids 3, H272
Skin irritation 2, H315
Eye irritation 2, H319
Specific target organ toxicity - single exposure 3, H335
For the full text of the H-phrases mentioned in this section, see section 2.2.

Classification according to directive 67/548/EEG or directive 1999/45/EG

O	Oxidizing
Xi	Irritant

R-Phrases:

R8	Contact with combustible material may cause fire.
R9	Explosive when mixed with combustible material.
R36/37/38	Irritating to eyes, respiratory system and skin.

2.2 Label elements

Labeling according to regulation (EG) No. 1272/2008

The substance is classified and labeled according to the CLP regulation.

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Hazard Pictograms:



GHS03

Signal word:

Warning

Hazard statement(s):

H272	May intensify fire; oxidizer.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.

Precautionary statement(s):

P220	Keep/Store away from clothing/ combustible materials.
P261	Avoid breathing dust.
P305 + P351 + P338	If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

Not information available.

3. COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Chemical characterization

Substance:

CAS No. (Description):	43086-60-8 (double labeled N-15 ammonium nitrate)
EC-No.(non-labeled):	229-347-8
Formula:	$^{15}\text{NH}_4^{15}\text{NO}_3$
Molar mass [g/mol]:	82,04 depending on the enrichment

4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution. Consult a physician.

If swallowed

Rinse mouth with water.

Never give anything by mouth to an unconscious person.

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Immediately make victim drink plenty of water.

Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labeling (see section 2.2 and/or in section 11).

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

5. FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing agents:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Nitrogen oxides (NO_x), ammonia fumes (NH₃).

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

Use water spray to cool unopened containers.

6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas and ensure adequate ventilation. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and material for containment and cleaning up

Sweep up and shovel. Place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

See Section 13 for disposal information.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid formation of dust and aerosols and contact with skin and eyes. Provide appropriate exhaust ventilation at places where dust is formed. Keep away from sources of ignition. No smoking. Keep away from heat and sources of ignition.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

No further relevant information available.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 Control Parameters

Technical instruction on air quality control (TA LUFT / GESTIS):

The emissions of dust in the exhaust gas are not allowed to exceed the following values:

Mass low: 0,20 kg/h
Mass concentration: 20 mg/m³

DNEL/DMEL and PNEC-Values:

No information available

8.2 Exposure controls

Appropriate engineering controls:

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of the workday.

Individual protection measures, such as personal protective equipment:

Body protection:

Wear impervious clothing. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection:

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Eye protection:

Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Hand protection:

Handle with gloves (inspected prior to use!). Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

8.3 Environmental exposure control

Do not let product enter drains.

9. PHYSICAL/CHEMICAL PROPERTIES

General Information

Appearance:	Form: Solid
	Color: Colorless
Odor:	Odorless
Odor threshold:	No information available.
pH-value (100 g/l) at 20 °C:	ca. 4.5 – 7
Melting point/Melting range:	169°C
Boiling point/Boiling range:	No information available
Flash point:	No information available
Flammability (solid, gaseous):	No information available

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Ignition temperature:	No information available
Decomposition temperature:	> 170 °C
Self-igniting:	No information available
Danger of explosion:	No information available
Explosion limits:	Lower: No information available. Upper: No information available.
Oxidizing properties:	The substance or mixture is classified as oxidizing with the category 3.
Vapor pressure:	No information available
Density at 20 °C:	1.72 g/cm ³
Bulk density:	ca. 650 kg/m ³
Evaporation rate:	No information available
Solubility in / Miscibility with water at 20 °C:	1877 g/l
Partition coefficient: n-octanol/water:	No information available
Viscosity, dynamic:	No information available.

10. STABILITY AND REACTIVITY

10.1 Reactivity

See section 10.3.

10.2 Chemical stability

Decomposition at T > 170 °C.

10.3 Possibility of hazardous reactions

Risk of explosion in contact with (GESTIS):

Combustable substances, organic substances, reducing agents, alkali metals.

The substance can react dangerously with:

Ammonium dichromate, acetic acid / heat, potassium dichromate, metal nitrites, sodium chloride, phosphorus / soft impact.

10.4 Conditions to avoid

Strong heating, impacts.

10.5 Incompatible materials

Reducing agents.

10.6 Hazardous decomposition products

Nitrogen oxides

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

- Oral LD50: 2220 mg/kg (rat)

11.2 Additional toxicological information

After swallowing:

May cause irritation.

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After inhalation:

Inhalation will cause irritation to the lungs and mucus membrane.

After skin contact:

May cause irritation.

After eye contact:

Irritation to the eyes will cause watering and redness.

11.3 Further information

The product should be handled with the care usual when dealing with chemicals.

12. ECOLOGICAL INFORMATION

12.1 Toxicity

No information available.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No information available.

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

12.6 Other adverse effects

Discharge into the environment must be avoided.

13. DISPOSAL CONSIDERATIONS

13.1 Waste Treatment methods

Dispose hazardous waste according to Waste Catalogue Ordinance (AVV).

If there is no way of recycling it must be disposed of in compliance with the respective national and local regulations.

Collect salt in container for inorganic solids.

Place in a collection container for salt solutions and adjust for a pH value of 6-8.

Collection vessels must be clearly labeled with a systematic description of their contents.

Store the vessels in a well-ventilated location. Entrust them to the appropriate authorities for disposal.

Contaminated packaging

Dispose of as unused product.

14. TRANSPORT INFORMATION

14.1 UN-Number

ADR/RID, IMDG, IATA: UN1942

14.2 UN proper shipping name

ADR/RID: AMMONIUM NITRATE

IMDG: AMMONIUM NITRATE

IATA: Ammonium Nitrate

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14.3 Transport hazard class(es)

ADR/RID, IMDG, IATA: 5.1

14.4 Packing group

ADR/RID, IMDG, IATA: III

14.5 Environmental hazards:

ADR/RID, IMDG, IATA: No

14.6 Special precautions for user

ADR/RID, IMDG, IATA: Not classified as dangerous in the meaning of transport regulations.

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:

Not relevant.

15. REGULATORY INFORMATION

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

No information available.

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

16. OTHER INFORMATION

Disclaimer

Product is supplied for research and laboratory use only. Not for drug, household or other uses.

Warranty

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. See invoice or packing slip for additional terms and conditions of sale.