

# SAFETY DATA SHEET

according to regulation (EG) Nr. 1907/2006



Date of issue: 09.10.2013

Revision date: 16.01.2017

Version: 2.2

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

### 1.1 Product identifiers

|                           |                                   |
|---------------------------|-----------------------------------|
| Product name:             | Ammonium chloride (N-15 labelled) |
| CAS-No. (labelled):       | 39466-62-1                        |
| CAS-No- (non-labelled):   | 12125-02-9                        |
| EC-No. (non-labelled):    | 235-186-4                         |
| Index No. (non-labelled): | 017-014-00-8                      |
| 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,<br>Industriestrasse 13,<br>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

Acute toxicity, Category 4, H302

Eye irritation, Category 2, H319

*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

Xn; Harmful

Xi; Irritant

R-phrases:

R36: Irritating to eye

R22: Harmful if swallowed

### 2.2 Label elements

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

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

Hazard Pictograms:



GHS08

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## Signal word:

Warning

## Hazard statements:

H302

Harmful if swallowed.

H319

Causes serious eye irritation.

## Precautionary statements:

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**

All chemicals are potentially dangerous. They should only be handled by specially trained personnel.

## Results of PBT- und vPvB-assessment:

PBT: Not applicable.

vPvB: Not applicable

## **3. COMPOSITION / INFORMATION ON INGREDIENTS**

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### **3.1 Chemical characterization**

#### Substance:

CAS No. (description): 39466-62-1 (N-15 labelled ammonium chloride)

EC-No.(non-labelled): 235-186-4

Index No. (non-labelled): 017-014-00-8

Formula:  $^{15}\text{NH}_4\text{Cl}$

Molar mass [g/mol]: 54,48

## **4. FIRST AID MEASURES**

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### **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. Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

#### If swallowed

Rinse mouth with water. Never give anything by mouth to an unconscious person. 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 information available.

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## 5. FIRE FIGHTING MEASURES

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### 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<sub>x</sub>), hydrogen chloride gas.

### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

### 5.4 Further information

No information available.

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## 6. ACCIDENTAL RELEASE MEASURES

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### 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.

### 6.3 Methods and material for containment and cleaning up

Pick up mechanically and arrange disposal without creating dust. Keep in suitable, closed containers for disposal. Dispose contaminated material as waste according to section 13.

### 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.

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## 7. HANDLING AND STORAGE

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### 7.1 Precautions for safe handling

Avoid formation of dust and aerosols and avoid contact with skin and eyes. Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Store at a 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

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### 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/m<sup>3</sup>

DNEL/DMEL and PNEC-Values:

DNEL (inhalation-systemic effects): 43,97 mg/m<sup>3</sup> (long-term exposure)

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## 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:

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

#### Respiratory protection:

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

#### Eye protection:

Sufficient eye protection must be worn.

Use safety glasses with side-shields conforming to EN166 and 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

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### General Information

|                                |  |
|--------------------------------|--|
| Appearance:                    | Form: Sold   |
|                                | Color: White   |
| Odor:                          | Odorless   |
| Odor threshold:                | No information available.  |
| pH-value (50 g/l) at 50 °C:    | 4.5 – 5.5  |
| Melting point/Melting range:   | 520 °C at 3,45 bar   |
| Boiling point/Boiling range:   | No information available.  |
| Flash point:                   | No information available.  |
| Flammability (solid, gaseous): | No information available.  |
| Ignition temperature:          | > 400°C  |
| Decomposition temperature:     | 338 °C   |
| Self-igniting:                 | No information available.  |
| Danger of explosion:           | No information available.  |
| Explosion limits:              | Lower: No information available.<br>Upper: No information available. |
| Oxidizing properties:          | No information available.  |
| Vapor pressure:                | 67 hPa at 250 °C<br>1,3 hPa at 30 °C                                 |
| Density at 20 °C:              | 1.52 g/cm <sup>3</sup>   |

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|  |                           |
|--|---------------------------|
| Bulk density:                                    | ca. 500 kg/m <sup>3</sup> |
| Evaporation rate:                                | No information available. |
| Solubility in / Miscibility with water at 20 °C: | 372 g/l                   |
| Viscosity, dynamic:                              | No information available. |

## 10. STABILITY AND REACTIVITY

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### 10.1 Reactivity

See section 10.3.

### 10.2 Chemical stability

Decomposition at 338 °C.

### 10.3 Possibility of hazardous reactions

Alkali hydroxides, chlorine, chlorates, nitrates, nitrites, halogen-halogen compounds.

### 10.4 Conditions to avoid

Strong heating.

### 10.5 Incompatible materials

Aluminium, Lead, Iron, Copper.

### 10.6 Hazardous decomposition products

In case of fire:

See section 5.

## 11. TOXICOLOGICAL INFORMATION

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### 11.1 Information on toxicological effects

Acute toxicity:

LD/LC50 values relevant for classification:

- Oral LD50: 1650 mg/kg (rat) (GESTIS)

Symptoms: Irritation of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.

Sensitization test (guinea pig): No sensitizing effect.

Bacterial mutagenicity: Ames-Test: negative.

Micronucleus-Test: negative.

Non-carcinogenic in animal experiments.

No teratogenic effect in animal experiments.

### 11.2 Additional toxicological information

After swallowing:

Mucosal irritations.

After inhalation

Irritations of the mucous membranes, coughing, and dyspnoea.

After skin contact:

Slight irritation symptoms.

After eye contact:

Irritations

### 11.3 Further information

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

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## 12. ECOLOGICAL INFORMATION

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### 12.1 Toxicity (GESTIS)

#### LC50 Fish (96 hours):

|          |           |
|----------|-----------|
| Minimum: | 0,02 mg/l |
| Maximum: | 520 mg/l  |
| Median:  | 22,1mg/l  |

#### LC50 Crustaceans (48 hours):

|          |           |
|----------|-----------|
| Minimum: | 0,08 mg/l |
| Maximum: | 725 mg/l  |
| Median:  | 7,43 mg/l |

#### EC50 Crustaceans (48 hours):

|          |           |
|----------|-----------|
| Minimum: | 35,5 mg/l |
| Maximum: | 180 mg/l  |
| Median:  | 49,7 mg/l |

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

Methods for the determination of biodegradability are not applicable to inorganic substances.

### 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.

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## 13. DISPOSAL CONSIDERATIONS

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### 13.1 Waste Treatment methods

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

#### Contaminated packaging

Dispose of as unused product.

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## 14. TRANSPORT INFORMATION

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### 14.1 UN-Number

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

### 14.2 UN proper shipping name

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

### 14.3 Transport hazard class(es)

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

### 14.4 Packing group

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

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## **14.5 Environmental hazards**

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

## **14.6 Special precautions for user Warning: Corrosive substances**

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**

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

#### National regulations:

Information about limitation of use: In dealing with chemicals the national laws must be observed.

Storage class: 10 – 13

### **15.2 Chemical safety assessment**

A Chemical Safety Assessment has not been carried out.

## **16. OTHER INFORMATION**

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### 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.