

**Safety Data Sheet**  
according to 1907/2006/EC, Article 31

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## 1 Identification of the substance/preparation and of the company/undertaking

- **Product details**
- **Trade name:** Ammonia 25% ≤ C ≤ 35%
- **Article number:** CH0117
- **Application of the substance / the preparation** Laboratory Reagent.
- **Manufacturer/Supplier:**

Carlo Erba Reagenti  
Strada Rivoltana Km 6/7  
I-20090 Rodano  
Tel.: 0039 02 953251

Carlo Erba Reactifs - SDS  
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- **Further information obtainable from:**  
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email ITALY: MSDS\_CER@carloerbareagenti.com  
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- **Information in case of emergency:**  
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## 2 Hazards identification

- **Hazard description:**



C Corrosive  
N Dangerous for the environment

- **Information concerning to particular hazards to man and environment:**  
R 34 Causes burns.  
R 37 Irritating to respiratory system.  
R 50 Very toxic to aquatic organisms.

- **Classification system:**

The product has to be labelled due to the calculation procedure of the "General Classification guideline for Substances of the EU", DIR. 67/548/EC, in the latest valid version, and of the "General Classification guideline for Preparations of the EU", DIR. 99/45/EC, in the latest valid version.

- **GHS label elements**



**Warning**

H400 - Very toxic to aquatic life.



**Warning**

H302 - Harmful if swallowed.  
H332 - Harmful if inhaled.

- **Prevention:**

P261 Avoid breathing dust/fume/gas/mist/vapours/spray.  
P273 Avoid release to the environment.

(Contd. on page 2)

**Trade name: Ammonia 25% ≤ C ≤ 35%**

(Contd. of page 1)

• **Response:**

P301+P312 IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

P304+P340 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

P312 Call a POISON CENTER or doctor/physician if you feel unwell.

• **Disposal:**

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

**3 Composition/information on ingredients**

• **Chemical characterization**

• **Description:** Mixture made by the following substances:

• **Dangerous components:**


CAS: 1336-21-6

EINECS: 215-647-6

Index number: 007-001-01-2

Ammonia..%

 C,  N; R 34-50

Warning:  4.1.A/1

25-35%

**4 First-aid measures**

• **General information:** Immediately remove any clothing soiled by the product.

• **After inhalation:** In case of unconsciousness place patient stably in side position for transportation.

• **After skin contact:**

Call a doctor immediately.

Immediately wash with water and soap and rinse thoroughly. Wash contaminated clothing before reuse.

• **After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

• **After swallowing:**

Do not induce vomiting; call for medical help immediately.

Drink plenty of water and provide fresh air.

• **Information for doctor:** Show your the doctor this Material Safety Data Sheets.

**5 Fire-fighting measures**

• **General Information:**

As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

• **Suitable extinguishing agents:**

CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.

• **Special hazards caused by the substance, its products of combustion or resulting gases:**

In case of fire, the following can be released:

Nitrogen oxides (NO<sub>x</sub>)

n the absence of oxygen: Ammonia (NH<sub>3</sub>)

• **Protective equipment:** No special measures required.

**6 Accidental release measures**

• **General Information:** Use proper personal protective equipment as indicated in Section 8.

• **Person-related safety precautions:**

Wear protective equipment. Keep unprotected persons away.

If vapours / aerosols are formed, use personal protective equipment.

• **Measures for environmental protection:**

Dilute with plenty of water after collecting the liquid.

Do not allow to enter sewers/ surface or ground water.

Inform respective authorities in case of seepage into water course or sewage system.

(Contd. on page 3)

**Trade name: Ammonia 25% ≤ C ≤ 35%**

(Contd. of page 2)

· **Measures for cleaning/collecting:**

Collect the liquid with vacuum in a suitable container and absorb the remainder with a porous material (diatomite, acid binders, universal binders, etc).

Ensure adequate ventilation.

Use neutralizing agent.

Dispose contaminated material as waste according to item 13.

· **Additional information:**

See Section 7 for information on safe handling.

See Section 8 for information on personal protection equipment.

See Section 13 for disposal information.

**7 Handling and storage**

· **Handling:**

· **Information for safe handling:** Ensure good ventilation/exhaustion at the workplace.

· **Storage:**

· **Requirements to be met by storerooms and receptacles:**

Provide floor trough without outlet.

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

· **Information about storage in one common storage facility:** Not required.

· **Further information about storage conditions:** Keep receptacle tightly sealed.

**8 Exposure controls/personal protection**

· **Additional information about design of technical facilities:** No further data; see item 7.

· **Ingredients with limit values that require monitoring at the workplace:**

The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

· **Additional information:** The lists valid during the making were used as basis.

· **Personal protective equipment:**

· **General protective and hygienic measures:**

Keep away from foodstuffs, beverages and feed.

Immediately remove all soiled and contaminated clothing

Wash hands before breaks and at the end of work.

Avoid contact with the skin.

· **Respiratory protection:**

In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.

· **Protection of hands:**

The selected protective gloves have to satisfy the specifications of EU Directive 89/689/EEC and the standard EN 374 derived from it.



Protective gloves

Rubber gloves

· **Material of gloves**

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

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. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

(Contd. on page 4)

**Trade name: Ammonia 25% ≤ C ≤ 35%**

(Contd. of page 3)

- **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:** Chemical safety goggles.
- **Body protection:** In case of pouring big amounts or disconnecting pipes.

## 9 Physical and chemical properties

- **Molecular weight**  

<b>Form:</b>	Fluid
<b>Colour:</b>	Colourless
<b>Odour:</b>	Like ammoniac
- **Change in condition**  

<b>Melting point/Melting range:</b>	Undetermined.
<b>Boiling point/Boiling range:</b>	Undetermined.
- **Flash point:** Not applicable.
- **Self-igniting:** Product is not selfigniting.
- **Danger of explosion:** Product does not present an explosion hazard.
- **Density at 20°C:** 0.87 g/cm<sup>3</sup>
- **Solubility in / Miscibility with**  

<b>water:</b>	Fully miscible.
<b>Organic solvents:</b>	0.0 %

## 10 Stability and reactivity

- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Materials to be avoided:**
- **Dangerous reactions** No dangerous reactions known.
- **Dangerous decomposition products:** Nitrogen oxides (NO<sub>x</sub>)

## 11 Toxicological information

- **Acute toxicity:**

- **LD/LC50 values relevant for classification:**

**1336-21-6 Ammonia..%**

Oral	LD50	350 mg/kg (rat)
Inhalative	LC50/4 h	1.36 mg/L (rat)

- **Primary irritant effect:**
  - **on the skin:** Caustic effect on skin and mucous membranes.
  - **on the eye:** Strong caustic effect.
- **Ingestion:** It can be harmful if swallowed.
- **Inhalation:**  
Material is extremely destructive to the tissue of the mucous membranes and upper respiratory tract.  
Harmful if inhaled. May cause respiratory tract irritation.
- **Sensitization:** No sensitizing effects known.
- **Other information (about experimental toxicology):** No more relevant data available.
- **Additional toxicological information:**  
The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:  
Corrosive  
Irritant

(Contd. on page 5)

**Trade name: Ammonia 25% ≤C ≤35%**

(Contd. of page 4)

Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.

## 12 Ecological information

· **Information about elimination (persistence and degradability):**

· **Method**

· **Ecological information** Not available

· **Ecotoxic effects:**

· **Acquatic toxicity:**

**1336-21-6 Ammonia..%**

LC50 aq. (96h pH>8) 0.2-4 mg/L (fishes)

· **Remark:**

Local effects: may change the environmental pH endangering the aquatic life.

Very toxic for fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water

Do not allow product to reach ground water, water course or sewage system.

Must not reach sewage water or drainage ditch undiluted or unneutralized.

Danger to drinking water if even small quantities leak into the ground.

Also poisonous for fish and plankton in water bodies.

Very toxic for aquatic organisms

## 13 Disposal considerations

· **Product:**

· **Recommendation**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Reutilise if possible or contact a waste processors for recycling or safe disposal.

· **Waste disposal key:**

The European Union does not establish uniform rules for the disposal of chemical waste, which are special waste. Their treatment and elimination of the domestic legislation of each country. So, in each case, you should contact the relevant authorities, or those companies legally authorized for elimination of waste.

2001/573/EC: Council Decision of 23 July 2001 amending the list of wastes contained in Decision 2000/532/EC.

Council Directive 91/156/EEC of 18 March 1991 amending Directive 75/442/EEC on waste.

· **Uncleaned packaging:**

The containers and packing materials contaminated with dangerous substances or preparations, have the same treatment products.

Directive 94/62/EC of the European Parliament and the Council of 20 December 1994 on packaging and packaging waste.

· **Recommendation:**

Disposal must be made according to official regulations.

Packagings that may not be cleansed are to be disposed of in the same manner as the product.

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

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(Contd. on page 6)

Trade name: Ammonia 25% ≤C ≤35%

(Contd. of page 5)

## 14 Transport information

### · Land transport ADR/RID (cross-border)



- **ADR/RID class:** 8 (C5) Corrosive substances.
- **Danger code (Kemler):** 80
- **UN-Number:** 2672
- **Packaging group:** III
- **Hazard label** 8
- **Special marking:** Symbol (fish and tree)
- **Description of goods:** 2672 AMMONIA SOLUTION
- **Excepted quantities (EQ):** E1
- **Limited quantities (LQ)** LQ7
- **Transport category** 3
- **Tunnel restriction code** E

### · Maritime transport IMDG:



- **IMDG Class:** 8
- **UN Number:** 2672
- **Label** 8
- **Packaging group:** III
- **EMS Number:** F-A,S-B
- **Marine pollutant:** Yes
- **Proper shipping name:** AMMONIA SOLUTION

### · Air transport ICAO-TI and IATA-DGR:



- **ICAO/IATA Class:** 8
- **UN/ID Number:** 2672
- **Label** 8
- **Packaging group:** III
- **Proper shipping name:** AMMONIA SOLUTION

- **UN "Model Regulation":** ADR 2009 - Italian Official Translation, ed. ARS IT editions
- **Environmental hazards:** Product contains environmentally hazardous substances: Ammonia..%

## 15 Regulatory information

### · Labelling according to EU guidelines:

The product has been classified and marked in according to the calculation procedure of the "General Classification guideline for Substances of the EU", DIR. 67/548/EC, in the latest valid version, and of the "General Classification guideline for Preparations of the EU", DIR. 99/45/EC, in the latest valid version.  
Observe the general safety regulations when handling chemicals.

(Contd. on page 7)



**Trade name: Ammonia 25% ≤C ≤35%**

(Contd. of page 6)

· **Code letter and hazard designation of product:**



C Corrosive  
N Dangerous for the environment

· **Hazard-determining components of labelling:**

Ammonia..%

· **Risk phrases:**

- 34 Causes burns.
- 37 Irritating to respiratory system.
- 50 Very toxic to aquatic organisms.

· **Safety phrases:**

- 20 When using do not eat or drink.
- 23 Do not breathe gas/fumes/vapour/spray (appropriate wording to be specified by the manufacturer).
- 26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- 36/37/39 Wear suitable protective clothing, gloves and eye/face protection.
- 45 In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
- 57 Use appropriate container to avoid environmental contamination.
- 60 This material and its container must be disposed of as hazardous waste.

· **National regulations:**

· **Waterhazard class:** Water hazard class 2 (Self-assessment): hazardous for water.

## 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.

· **Relevant R-phrases**

- 34 Causes burns.
- 50 Very toxic to aquatic organisms.

· **Department issuing MSDS: Q.A / Normative**

· **Contact:**

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· **References**

ECDIN (Environmental Chem. Data and Information Network)  
IUCLID (International Uniform Chemical Information Database)  
NIOSH - Registry of Toxic Effects of Chemical Substances  
Roth - Wassergefährdende Stoffe  
Verschuieren - Handbook of Environmental Data on Organic Chemicals  
ChemDAT - Safety Data Sheets from E.Merck on CD-ROM  
Merian - Metals and their compounds in the environment

· **Sources**

DIR. 67/548/EC, in the latest valid version.  
DIR. 1999/45/EC, in the latest valid version.  
Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006, REACH.  
Regulation (EC) N° 1272/2008 of the European Parliament and of the Council of 16 December 2008, CLP, in the latest valid version.  
Globally Harmonized System, GHS