

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

Revision: 16.07.2010

Printing date 16.07.2010

1 Identification of substance**Product details**

Trade name

2-Pyrrolidinone

Stock number:

A15332, L06616

Manufacturer/Supplier:

Alfa Aesar GmbH & Co.KG
Benzstrasse 3
D-76185 Karlsruhe / GermanyE-mail: gcat@matthey.com
www.alfa-chemcat.com

Informing department:

Product safety department.

Emergency information:

Giftnotruf Universität Mainz / Poison Information Center Mainz
www.giftinfo.uni-mainz.de Telefon:+49(0)6131/19240**2 Hazards identification**

Hazard designation:



Xn Harmful

Information pertaining to particular dangers
for man and environment
GHS label elements

R 21 Harmful in contact with skin.

**Danger**

Prevention:

Response:

Storage:

Disposal:

H311 - Toxic in contact with skin.

P280 Wear protective gloves/protective clothing/eye protection/face protection.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P322 Specific measures (see on this label).

P361 Remove/Take off immediately all contaminated clothing.

P405 Store locked up.

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

3 Composition/information on ingredients

Chemical characterization:

Designation: (CAS#)

Identification number(s):

EINECS Number:

2-Pyrrolidinone (CAS# 616-45-5)

210-483-1

4 First aid measures

After inhalation

After skin contact

After eye contact

After swallowing

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

Seek immediate medical advice.

Instantly wash with water and soap and rinse thoroughly.

Seek immediate medical advice.

Rinse opened eye for several minutes under running water. Then consult doctor.

Seek immediate medical advice.

5 Fire fighting measures

Suitable extinguishing agents

Special hazards caused by the material, its
products of combustion or flue gases:

Protective equipment:

CO2, extinguishing powder or water jet. Fight larger fires with water jet or alcohol-resistant foam.

Can be released in case of fire:

Carbon monoxide and carbon dioxide

Nitrogen oxides (NOx)

Possibly Hydrogen cyanide (HCN)

Wear self-contained breathing apparatus.

Wear full protective suit.

6 Accidental release measures

Person-related safety precautions:

Measures for environmental protection:

Measures for cleaning/collecting:

Additional information:

Wear protective equipment. Keep unprotected persons away.

Ensure adequate ventilation

Do not allow material to be released to the environment without proper governmental permits.

Dispose of contaminated material as waste according to item 13.

Ensure adequate ventilation.

See Section 7 for information on safe handling

See section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

7 Handling and storage

Handling

Information for safe handling:

Information about protection against
explosions and fires:

Storage

Requirements to be met by storerooms and
containers:Information about storage in one common
storage facility:Further information about storage
conditions:

Keep containers tightly sealed.

Store in cool, dry place in tightly closed containers.

Ensure good ventilation/exhaustion at the workplace.

Keep ignition sources away - Do not smoke.

No special requirements.

Store away from oxidizing agents.

Keep container tightly sealed.

Store in cool, dry conditions in well sealed containers.

8 Exposure controls and personal protectionAdditional information about design of
technical systems:Components with critical values that require
monitoring at the workplace:

Additional information:

Personal protective equipment

General protective and hygienic measures

Breathing equipment:

Protection of hands:

Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Not required.

No data

The usual precautionary measures should be adhered to in handling the chemicals.

Keep away from foodstuffs, beverages and food.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Avoid contact with the eyes and skin.

Use breathing protection with high concentrations.

Check protective gloves prior to each use for their proper condition.

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Material of gloves	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.	(Contd. of page 1)
Eye protection:	Safety glasses Face protection	
Body protection:	Protective work clothing.	

9 Physical and chemical properties:

General Information		
Form:	Melt	
Colour:	Colourless Pale yellow Light brown	
Smell:	Not determined	
Change in condition		
Melting point/Melting range:	23-25°C	
Boiling point/Boiling range:	245°C	
Sublimation temperature / start:	Not determined	
Flash point:	> 110°C	
Ignition temperature:	Not determined	
Decomposition temperature:	Not determined	
Danger of explosion:	Product is not explosive.	
Critical values for explosion:		
Lower:	Not determined	
Upper:	Not determined	
Steam pressure:	Not determined	
Density at 20°C	1.12 g/cm ³	
Solubility in / Miscibility with Water:	Soluble	

10 Stability and reactivity

Thermal decomposition / conditions to be avoided:	No decomposition if used and stored according to specifications.
Materials to be avoided:	Oxidizing agents
Dangerous reactions:	No dangerous reactions known
Dangerous products of decomposition:	Carbon monoxide and carbon dioxide Nitrogen oxides (NOx) Possibly Hydrogen cyanide (HCN)

11 Toxicological information

Acute toxicity:	
LD/LC50 values that are relevant for classification:	
Dermal LD50 1000-1500 mg/kg (guinea pig)	
Primary irritant effect:	
on the skin:	Irritant for skin and mucous membranes.
on the eye:	Irritant effect.
Sensitization:	No sensitizing effect known.
Other information (about experimental toxicology):	Reproductive effects have been observed on tests with laboratory animals. Mutagenic effects have been observed on tests with bacteria.
Additional toxicological information:	To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information:

Additional ecological information:	
General notes:	Water hazard class 1 (Self-assessment): slightly hazardous for water. Do not allow undiluted product or large quantities of it to reach ground water, water bodies or sewage system. Do not allow material to be released to the environment without proper governmental permits.

13 Disposal considerations

Product:	
Recommendation	Consult state, local or national regulations for proper disposal. Hand over to disposers of hazardous waste. Must be specially treated under adherence to official regulations.
Uncleaned packagings:	
Recommendation:	Disposal must be made according to official regulations.
Recommended cleaning agent:	Water, if necessary with cleaning agent.

14 Transport information

Land transport ADR/RID and GGVS/GGVE (cross-border/domestic)	
ADR/RID-GGVS/E Class:	None
UN-Number:	
Label	6.1
Maritime transport IMDG/GGVSea:	
IMDG/GGVSea Class:	None
Marine pollutant:	No
Air transport ICAO-TI and IATA-DGR:	
ICAO/IATA Class:	None
Transport/Additional information:	Not dangerous according to the above specifications.

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15 Regulatory information**Designation according to EC guidelines:****Code letter and hazard designation of product:**

Xn Harmful

Risk phrases:

21 Harmful in contact with skin.

Safety phrases:

36/37 Wear suitable protective clothing and gloves.

National regulations**Information about limitation of use:**Employment restrictions concerning young persons must be observed.
For use only by technically qualified individuals.**Water hazard class:**

Water hazard class 1 (Self-assessment): slightly hazardous for water.

16 Other information:

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user.

Department issuing data specification sheet: Health, Safety and Environmental Department.**Contact:** Zachariah Holt**Abbreviations and acronyms:**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)
ICAO: International Civil Aviation Organization
ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)
GHS: Globally Harmonized 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

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