



SAFETY DATA SHEET

Revision Date 10-Feb-2011

Revision Number 2

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Description: 2-Pyrrolidinone
Cat No. 132110000; 132112500; 132115000
Synonyms 2-Ketopyrrolidine; Butyrolactam; Gamma-Aminobutyrolactam

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

E-mail address bege1.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Not hazardous

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R phrases mentioned in this Section, see Section 16

R -phrase(s) none

Label Elements

Signal Word None

Hazard Statements

Other Hazards

No information available.

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3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS	REACH Reg. No.
2-Pyrrolidinone 616-45-5	EEC No. 210- 483-1	99	616-45-5	-	-	-

For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes Obtain medical attention
Skin Contact	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes Obtain medical attention
Ingestion	Clean mouth with water Get medical attention
Inhalation	Remove from exposure, lie down Move to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration Obtain medical attention
Notes to Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Extinguishing media
Suitable Extinguishing Media

Water spray Carbon dioxide (CO₂) Dry chemical chemical foam

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

Advice for fire-fighters

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

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation

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Environmental precautions

Prevent further leakage or spillage if safe to do so

Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable and closed containers for disposal.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes Do not breathe dust Do not breathe vapors or spray mist Take precautionary measures against static discharges

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place Keep container tightly closed Material darkens in color during storage

Specific End Uses

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

Exposure limits

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls

Engineering Measures

Ensure adequate ventilation, especially in confined areas

Personal protective equipment

Eye Protection

Goggles

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

Environmental exposure controls

No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Low melting solid, Solid

Appearance

Light yellow

odor

odorless

pH

9-11 100 g/L aq.sol.

Vapor Pressure

0.04 mbar @ 20 °C

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9. PHYSICAL AND CHEMICAL PROPERTIES

Vapor Density	2.93
Viscosity	10.2 mPa.s at 30 °C
Boiling Point/Range	250°C / 482°F@ 760 mmHg
Melting Point/Range	25.5 - 25.00°C / 77.9 - 77°F
Flash Point	138°C / 280.4°F
Autoignition Temperature	390°C / 734°F
Explosion Limits	
Lower	1.8
Upper	16.6
Water Solubility	miscible
Specific Gravity	1.103
Molecular Formula	C ₄ H ₇ N O
Molecular Weight	85.11

10. STABILITY AND REACTIVITY
Reactivity
Chemical Stability

Stable under normal conditions. Hygroscopic.

Possibility of Hazardous Reactions
Hazardous Polymerization No information available.

Hazardous Reactions . No information available.

Conditions to Avoid

Incompatible products, Exposure to moist air or water.

Incompatible Materials

Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents.

Hazardous Decomposition Products

 Nitrogen oxides (NO_x). Carbon monoxide (CO). Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION
Information on Toxicological Effects
Acute Toxicity
Product Information No acute toxicity information is available for this product

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
2-Pyrrolidinone	3200 mg/kg (Rat)		



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Chronic Toxicity

Carcinogenicity

There are no known carcinogenic chemicals in this product

Sensitization

No information available.

Mutagenic Effects

Not mutagenic in AMES Test

Reproductive Effects

No information available.

Developmental Effects

No information available.

Target Organs

No information available.

Other Adverse Effects

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Endocrine Disruptor Information

None known

12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects

Do not flush into surface water or sanitary sewer system Do not allow material to contaminate ground water system Do not empty into drains

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
2-Pyrrolidinone	250 mg/L EC50 = 72 h 84 mg/L EC50 = 96 h	4600-10000 mg/L LC50 96 h	EC50 = 759 mg/L 30 min EC50 > 10000 mg/L 17 h	3.4 mg/L LC50 = 96 h

Persistence and degradability

Expected to be biodegradable

Bioaccumulative potential

No information available.

Component	log Pow
2-Pyrrolidinone	0

Mobility in soil

Results of PBT and vPvB assessment

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

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13. DISPOSAL CONSIDERATIONS

Waste from Residues / Unused Products

Dispose of in accordance with local regulations

Contaminated Packaging

Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

IMDG/IMO

Not regulated

ADR

Not regulated

IATA

Not regulated

15. REGULATORY INFORMATION

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

International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
2-Pyrrolidinone	210-483-1	-		X	X	-	X	X	X	X	KE-29978 X

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory Lists

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2-3

No information available.

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16. OTHER INFORMATION

Revision Summary Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this SDS is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text

End of Safety Data Sheet