

Safety Data Sheet

N-Octyl-2-pyrrolidone Dist. bulk

Revision date : 2022/09/10
Version: 7.0

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(30796256/SDS_GEN_US/EN)

1. Identification

Product identifier used on the label

N-Octyl-2-pyrrolidone Dist. bulk

Recommended use of the chemical and restriction on use

Recommended use*: Chemical

Recommended use*: for industrial use only

Unsuitable for use: Not intended for sale to or use by the general public.

* The "Recommended use" identified for this product is provided solely to comply with a Federal requirement and is not part of the seller's published specification. The terms of this Safety Data Sheet (SDS) do not create or infer any warranty, express or implied, including by incorporation into or reference in the seller's sales agreement.

Details of the supplier of the safety data sheet

Company:

BASF CORPORATION
100 Park Avenue
Florham Park, NJ 07932, USA

Telephone: +1 973 245-6000

Emergency telephone number

24 Hour Emergency Response Information

CHEMTREC: 1-800-424-9300

BASF HOTLINE: 1-800-832-HELP (4357)

Other means of identification

Molecular formula: C(12)H(23)NO

Chemical family: No data available.

Synonyms: N-OCTYL-2-PYRROLIDONE
N-OCTYLPYRROLIDINONE

2. Hazards Identification

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

Classification of the product

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Skin Corr./Irrit.	1B
Eye Dam./Irrit.	1
Aquatic Acute	2
Aquatic Chronic	3

Skin corrosion/irritation
Serious eye damage/eye irritation
Hazardous to the aquatic environment - acute
Hazardous to the aquatic environment - chronic

Label elements

Pictogram:



Signal Word:
Danger

Hazard Statement:

H314	Causes severe skin burns and eye damage.
H412	Harmful to aquatic life with long lasting effects.
H401	Toxic to aquatic life.

Precautionary Statements (Prevention):

P280	Wear protective gloves, protective clothing and eye protection or face protection.
P273	Avoid release to the environment.
P260	Do not breathe mist or vapour.
P264	Wash contaminated body parts thoroughly after handling.

Precautionary Statements (Response):

P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or physician.
P303 + P361 + P353	IF ON SKIN (or hair): Remove or Take off immediately all contaminated clothing. Rinse skin with water or shower.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P301 + P330 + P331	IF SWALLOWED: rinse mouth. Do NOT induce vomiting.
P363	Wash contaminated clothing before reuse.

Precautionary Statements (Storage):

P405	Store locked up.
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Precautionary Statements (Disposal):

P501	Dispose of contents/container in accordance with local regulations.
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Hazards not otherwise classified

Labeling of special preparations (GHS):

Corrosive to the respiratory tract.

3. Composition / Information on Ingredients

According to Regulation 2012 OSHA Hazard Communication Standard; 29 CFR Part 1910.1200

1-octylpyrrolidine-2-one

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CAS Number: 2687-94-7
Content (W/W): ≥ 99.36 - $\leq 99.8\%$
Synonym: 1-Octyl-2-pyrrolidinone

octylamine

CAS Number: 111-86-4
Content (W/W): ≥ 0.05 - $\leq 0.3\%$
Synonym: Octylamine

Gamma-butyrolactone

CAS Number: 96-48-0
Content (W/W): ≥ 0.02 - $\leq 0.17\%$
Synonym: Dihydro-2-(3H)-furanone; 4-Hydroxybutyric acid lactone, γ -Butyrolactone

1-Octanamine, N-octyl-

CAS Number: 1120-48-5
Content (W/W): ≥ 0.0 - $\leq 0.03\%$
Synonym: Dioctylamine

4. First-Aid Measures

Description of first aid measures

General advice:

First aid personnel should pay attention to their own safety. If the patient is likely to become unconscious, place and transport in stable sideways position (recovery position). Immediately remove contaminated clothing.

If inhaled:

Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Immediate medical attention required.

If on skin:

Wash affected areas thoroughly with soap and water. Remove contaminated clothing. Seek medical attention.

If in eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

Hold eyes open and rinse slowly and gently with water for 15 to 20 minutes. Remove contact lenses, if present, after first 5 minutes, then continue rinsing. Seek medical attention.

If swallowed:

Rinse mouth and then drink 200-300 ml of water. Do not induce vomiting. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Immediate medical attention required.

Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause: corneal injury, skin corrosion, severe pain, coughing, respiratory disorders, dyspnea, nausea, headache, vomiting, dizziness, diarrhea, abdominal cramps

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Hazards: No applicable information available.

Indication of any immediate medical attention and special treatment needed

Note to physician

Treatment:

Treat according to symptoms (decontamination, vital functions), no known specific antidote. Pulmonary odema prophylaxis. Medical monitoring for at least 24 hours.

5. Fire-Fighting Measures

Extinguishing media

Suitable extinguishing media:

water spray, dry powder, foam, carbon dioxide

Unsuitable extinguishing media for safety reasons:

No data available.

Special hazards arising from the substance or mixture

Hazards during fire-fighting:

nitrogen oxides, carbon oxides

The substances/groups of substances mentioned can be released in case of fire. Under certain conditions in case of fire other hazardous combustion products may be generated.

Advice for fire-fighters

Protective equipment for fire-fighting:

Firefighters should be equipped with self-contained breathing apparatus and turn-out gear.

Further information:

If exposed to fire, keep containers cool by spraying with water.

Impact Sensitivity:

Remarks:

Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Wear appropriate respiratory protection. Use personal protective clothing. Ensure adequate ventilation.

Environmental precautions

Do not empty into drains.

This product is not regulated by RCRA. This product is not regulated by CERCLA ('Superfund').

Methods and material for containment and cleaning up

Spills should be contained, solidified, and placed in suitable containers for disposal.

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7. Handling and Storage

Precautions for safe handling

Ensure thorough ventilation of stores and work areas. Keep container tightly closed.

Protection against fire and explosion:

No explosion proofing necessary.

Conditions for safe storage, including any incompatibilities

Segregate from acids and acid forming substances. Segregate from oxidants.

Suitable materials for containers: Stainless steel 1.4401, Stainless steel 1.4301 (V2), High density polyethylene (HDPE), Low density polyethylene (LDPE), Carbon steel (Iron), glass

Unsuitable materials for containers: Aluminium, Galvanized carbon steel (Zinc), Paper/Fibreboard, board, tinned carbon steel (Tinplate)

Further information on storage conditions: Keep container tightly closed in a cool, well-ventilated place. Keep container dry.

No special precautions necessary.

Storage stability:

Storage temperature: $\leq 45^{\circ}\text{C}$

Storage duration: 24 Months

May yellow after lengthy storage.

From the data on storage duration in this safety data sheet no agreed statement regarding the warrantee of application properties can be deduced.

8. Exposure Controls/Personal Protection

No substance specific occupational exposure limits known.

Advice on system design:

Provide local exhaust ventilation to control vapours/mists.

Personal protective equipment

Respiratory protection:

Wear a NIOSH-certified (or equivalent) organic vapour/particulate respirator. Do not exceed the maximum use concentration for the respirator facepiece/cartridge combination. For emergency or non-routine, high exposure situations, use a NIOSH-certified full facepiece pressure demand self-contained breathing apparatus (SCBA) or a full facepiece pressure demand supplied-air respirator (SAR) with escape provisions.

Hand protection:

Chemical resistant protective gloves, Consult with glove manufacturer for testing data.

Eye protection:

Tightly fitting safety goggles (chemical goggles) and face shield.

Body protection:

Body protection must be chosen depending on activity and possible exposure, e.g. head protection, apron, protective boots, chemical-protection suit.

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General safety and hygiene measures:

Wear protective clothing as necessary to prevent contact. When using, do not eat, drink or smoke. Hands and/or face should be washed before breaks and at the end of the shift. Gloves must be inspected regularly and prior to each use. Replace if necessary (e.g. pinhole leaks). Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Store work clothing separately.

9. Physical and Chemical Properties

Form:	liquid, slightly viscous	
Odour:	amine-like	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Colour:	colourless to yellow	
pH value:	not applicable, The substance does not dissociate.	
Freezing point:	-31.1 °C (1,013 hPa)	(Directive 92/69/EEC, A.1)
Boiling point:	292 - 305 °C (1,013.25 hPa)	(Directive 84/449/EEC, A.2)
Sublimation point:	No applicable information available.	
Flash point:	142 °C	(Directive 84/449/EEC, A.9, closed cup)
Flammability:	not flammable	(derived from flash - and boiling point)
Lower explosion limit:	For liquids not relevant for classification and labelling. The lower explosion point may be 5 - 15 °C below the flash point.	
Upper explosion limit:	For liquids not relevant for classification and labelling.	
Autoignition:	225 °C	(Directive 92/69/EEC, A.15)
SADT:	Not a substance/mixture liable to self-decomposition according to GHS.	
Vapour pressure:	0.0008 mbar (20 °C) 0.02 mbar (55 °C)	(Directive 84/449/EEC, A.4)
Density:	0.9219 g/cm3 (20 °C)	(Directive 92/69/EEC, A.3)
Relative density:	0.9219 (20 °C)	(Directive 92/69/EEC, A.3)
Vapour density:	No applicable information available. > 1 (20 °C) Heavier than air.	(estimated)
Partitioning coefficient n-octanol/water (log Pow):	4.15 (20 °C)	(Directive 84/449/EEC, A.8)
Self-ignition temperature:	Based on its structural properties the product is not classified as self-igniting.	
Thermal decomposition:	475 °C, 100 J/g (DSC (DIN 51007)) It is not a self-decompositionable substance.	
Viscosity, dynamic:	8.38 mPa.s (20 °C)	(calculated (from kinematic viscosity))

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Viscosity, kinematic:	4.57 mPa.s (40 °C)	(calculated (from kinematic viscosity))
	9.10 mm ² /s (20 °C)	(OECD 114)
	5.04 mm ² /s (40 °C)	(OECD 114)
Particle size:	The substance / product is marketed or used in a non solid or granular form.	
Solubility in water:	1.14 g/l (20 °C)	
Solubility (quantitative):	No applicable information available.	
Solubility (qualitative):	soluble solvent(s): organic solvents,	
Molar mass:	197.32 g/mol	
Evaporation rate:	Value can be approximated from Henry's Law Constant or vapor pressure.	

10. Stability and Reactivity

Reactivity

Corrosion to metals:

Corrosive effects to metal are not anticipated. In the presence of water or moisture metal corrosion cannot be excluded.

Oxidizing properties:

Based on its structural properties the product is not classified as oxidizing.

Formation of flammable gases:	Remarks:	Forms no flammable gases in the presence of water.
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Chemical stability

The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions

Hazardous reactions in presence of mentioned substances to avoid. Evolution of heat under influence of acids.

The product is chemically stable.

Conditions to avoid

Avoid all sources of ignition: heat, sparks, open flame. Avoid extreme temperatures.

Incompatible materials

acids, bases

Hazardous decomposition products

Decomposition products:

Hazardous decomposition products: carbon monoxide, carbon dioxide, nitrogen oxides

Thermal decomposition:

475 °C, 2 K/min (DSC (DIN 51007))

It is not a self-decompositionable substance.

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11. Toxicological information

Primary routes of exposure

Routes of entry for solids and liquids are ingestion and inhalation, but may include eye or skin contact. Routes of entry for gases include inhalation and eye contact. Skin contact may be a route of entry for liquefied gases.

Acute Toxicity/Effects

Acute toxicity

Assessment of acute toxicity: In animal studies the substance is virtually nontoxic after a single ingestion. Of low toxicity after short-term skin contact.

Oral

Type of value: LD50

Species: rat (male/female)

Value: > 2,200 mg/kg (OECD Guideline 401)

No mortality was observed.

Inhalation

No applicable information available.

Dermal

Type of value: LD50

Species: rat (male/female)

Value: > 4,000 mg/kg (OECD Guideline 402)

Assessment other acute effects

Assessment of STOT single:

Based on the available information there is no specific target organ toxicity to be expected after a single exposure. Corrosive to the respiratory tract.

Irritation / corrosion

Assessment of irritating effects: Corrosive! Damages skin and eyes.

Skin

Species: rabbit

Result: Corrosive.

Method: OECD Guideline 404

Eye

Species: rabbit

Result: Corrosive.

Method: Draize test

Sensitization

Assessment of sensitization: Skin sensitizing effects were not observed in animal studies.

Guinea pig maximization test

Species: guinea pig

Result: Non-sensitizing.

Method: OECD Guideline 406

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Aspiration Hazard

not applicable

Chronic Toxicity/Effects

Repeated dose toxicity

Assessment of repeated dose toxicity: No substance-specific organotoxicity was observed after repeated administration to animals.

Genetic toxicity

Assessment of mutagenicity: The substance was not mutagenic in bacteria. No mutagenic effect was found in various tests with mammalian cell culture and mammals.

Carcinogenicity

Assessment of carcinogenicity: No data available.

Reproductive toxicity

Assessment of reproduction toxicity: The results of animal studies gave no indication of a fertility impairing effect.

Teratogenicity

Assessment of teratogenicity: The substance did not cause malformations in animal studies; however, toxicity to development was observed at high doses that were toxic to the parental animals.

Medical conditions aggravated by overexposure

Data available do not indicate that there are medical conditions that are generally recognized as being aggravated by exposure to this substance/product. See SDS section 11 - Toxicological information.

12. Ecological Information

Toxicity

Aquatic toxicity

Assessment of aquatic toxicity:

Toxic to aquatic life. Harmful to aquatic life with long lasting effects.

Toxicity to fish

LC50 (96 h) 27.5 mg/l, Brachydanio rerio (Directive 84/449/EEC, C.1, static)

The statement of the toxic effect relates to the analytically determined concentration.

LC50 (96 h) 17.8 mg/l, Oncorhynchus mykiss (EPA 72-1)

The statement of the toxic effect relates to the analytically determined concentration.

Aquatic invertebrates

EC50 (48 h) 7.59 mg/l, Daphnia magna (Directive 79/831/EEC)

The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants

EC50 (72 h) 19.0 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201)

The statement of the toxic effect relates to the analytically determined concentration.

EC10 (72 h) 11.2 mg/l (growth rate), Desmodesmus subspicatus (OECD Guideline 201)

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The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to fish

No observed effect concentration (35 d) 0.91 mg/l, Brachydanio rerio (OECD Guideline 215, Flow through.)

The statement of the toxic effect relates to the analytically determined concentration.

Chronic toxicity to aquatic invertebrates

No observed effect concentration (21 d) 2.5 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
Nominal values (confirmed by concentration control analytics)

Assessment of terrestrial toxicity

Toxic effects have been observed in studies with soil living organisms. No toxic effects have been observed in studies with other terrestrial non-mammals.

Soil living organisms

Toxicity to soil dwelling organisms:

LC50 (14 d) 248 mg/kg, Eisenia foetida (OECD Guideline 207, artificial soil)

The details of the toxic effect relate to the nominal concentration.

Toxicity to terrestrial plants

EC50 (14 d) 235 mg/kg, Brassica napus (OECD Guideline 208)

EC50 (14 d) 164 mg/kg, Brassica napus (OECD Guideline 208)

EC50 (14 d) 426 mg/kg, Vicia sativa (OECD Guideline 208)

EC50 (14 d) 313 mg/kg, Vicia sativa (OECD Guideline 208)

EC50 (14 d) 572 mg/kg, Avena sativa (OECD Guideline 208)

EC50 (14 d) 250 mg/kg, Avena sativa (OECD Guideline 208)

Other terrestrial non-mammals

LD50 (5 d) > 5,620 mg/kg, Colinus virginianus (other, No data available.)

Microorganisms/Effect on activated sludge

Toxicity to microorganisms

DIN 38412 Part 27 (draft) static

bacterium/EC10 (0.5 h): 170 mg/l

The product has low solubility in the test medium. An aqueous solution prepared with solubilizers has been tested.

Persistence and degradability

Assessment biodegradation and elimination (H2O)

Readily biodegradable (according to OECD criteria).

Elimination information

81 % BOD of the ThOD (28 d) (OECD 301F; ISO 9408; 92/69/EEC, C.4-D) (aerobic, activated sludge, domestic)

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Assessment of stability in water

According to structural properties, hydrolysis is not expected/probable.

Information on Stability in Water (Hydrolysis)

$t_{1/2}$ 1,000 d, 0 % (30 d) (35 °C, pH value 7), (other, pH 7)

Bioaccumulative potential

Assessment bioaccumulation potential

Accumulation in organisms is not to be expected.

Bioaccumulation potential

Bioconcentration factor: approx. 5.4 (calculated)

The product has not been tested. The statement has been derived from the structure of the product.

Mobility in soil

Assessment transport between environmental compartments

The substance will not evaporate into the atmosphere from the water surface.

Adsorption to solid soil phase is not expected.

Additional information

Sum parameter

Chemical oxygen demand (COD): 2,558 mg/g

Adsorbable organically-bound halogen(AOX):

This product contains no organically-bound halogen.

Other ecotoxicological advice:

Do not release untreated into natural waters.

13. Disposal considerations

Waste disposal of substance:

Do not discharge into waterways or sewer systems without proper authorization. Dispose of in accordance with national, state and local regulations.

Container disposal:

Dispose of in a licensed facility. Recommend crushing, puncturing or other means to prevent unauthorized use of used containers.

14. Transport Information

Land transport

USDOT

Hazard class: 8

Packing group: II

ID number: UN 3267

Hazard label: 8, EHSM

Proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains 1-OCTYL-2-PYRROLIDINONE)

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Sea transport

IMDG

Hazard class: 8
Packing group: II
ID number: UN 3267
Hazard label: 8, EHS
Marine pollutant: YES
Proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains 1-OCTYL-2-PYRROLIDINONE)

Air transport

IATA/ICAO

Hazard class: 8
Packing group: II
ID number: UN 3267
Hazard label: 8
Proper shipping name: CORROSIVE LIQUID, BASIC, ORGANIC, N.O.S. (contains 1-OCTYL-2-PYRROLIDINONE)

15. Regulatory Information

Federal Regulations

Registration status:

Chemical TSCA, US released / listed

EPCRA 311/312 (Hazard categories): Refer to SDS section 2 for GHS hazard classes applicable for this product.

NFPA Hazard codes:

Health: 3 Fire: 1 Reactivity: 0 Special:

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute	2	Hazardous to the aquatic environment - acute
Skin Corr./Irrit.	1B	Skin corrosion/irritation
Acute Tox.	5 (dermal)	Acute toxicity
Aquatic Chronic	3	Hazardous to the aquatic environment - chronic
Eye Dam./Irrit.	1	Serious eye damage/eye irritation

16. Other Information

SDS Prepared by:

BASF NA Product Regulations

SDS Prepared on: 2022/09/10

We support worldwide Responsible Care® initiatives. We value the health and safety of our employees, customers, suppliers and neighbors, and the protection of the environment. Our commitment to Responsible Care is integral to conducting our business and operating our facilities in

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a safe and environmentally responsible fashion, supporting our customers and suppliers in ensuring the safe and environmentally sound handling of our products, and minimizing the impact of our operations on society and the environment during production, storage, transport, use and disposal of our products.

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