We create chemistry

Safety Data Sheet
Ammonium carbamate crystals

1. Identification

Product identifier used on the label

Ammonium carbamate crystals

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.
Raw material; propellant

* 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 Canada Inc.
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Mississauga, ON, L4W 0B6, CANADA

Telephone: +1 289 360-1300

Emergency telephone number

24 Hour Emergency Response Information
CHEMTREC: 1-800-424-9300
BASF HOTLINE: (800) 454-COPE (2673)

Other means of identification

Molecular formula:	H(2)NCO(2)NH(4)
Chemical family:	inorganic compounds
Synonyms:	Carbamic Acid, Monoammonium Salt Ammonium Carbamate

2. Hazards Identification

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

Classification of the product

Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	1	Serious eye damage/eye irritation
Aquatic Acute	3	Hazardous to the aquatic environment - acute

Label elements

Pictogram:

Signal Word:
Danger

Hazard Statement:

H318	Causes serious eye damage.
H302	Harmful if swallowed.
H402	Harmful to aquatic life.

Precautionary Statements (Prevention):

P280	Wear eye and face protection.
P273	Avoid release to the environment.
P270	Do not eat, drink or smoke when using this product.
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.
P330	Rinse mouth

Precautionary Statements (Disposal):

P501	Dispose of contents and container to hazardous or special waste collection point.

Hazards not otherwise classified

If applicable information is provided in this section on other hazards which do not result in classification but which may contribute to the overall hazards of the substance or mixture.
No specific dangers known, if the regulations/notes for storage and handling are considered.

3. Composition / Information on Ingredients

According to Hazardous Products Regulations (HPR) (SOR/2015-17)

ammonium carbamate
CAS Number: 1111-78-0
Content (W/W): >= 75.0 - <= 100.0%
Synonym: No data available.

4. First-Aid Measures

Description of first aid measures

General advice:
Remove contaminated clothing.

If inhaled:
Remove the affected individual into fresh air and keep the person calm. Assist in breathing if necessary. Seek medical attention.

If on skin:
Wash affected areas thoroughly with soap and water. If irritation develops, seek medical attention.

If in eyes:
In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. If irritation develops, seek medical attention.

If swallowed:
Rinse mouth and then drink 200-300 ml of water. Never induce vomiting or give anything by mouth if the victim is unconscious or having convulsions. Seek medical attention.

Most important symptoms and effects, both acute and delayed

Symptoms: Eye irritation, respiratory disorders, Information, i.e. additional information on symptoms and effects may be included in the GHS labeling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Information on: ammonium carbamate
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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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.

5. Fire-Fighting Measures

Suitable extinguishing media:
water spray, carbon dioxide, foam

Special hazards arising from the substance or mixture

Hazards during fire-fighting:
ammonia, carbon dioxide,
The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters

Further information:
Product itself is non-combustible; fire extinguishing method of surrounding areas must be considered.

Impact Sensitivity:
Remarks: Based on the chemical structure there is no shock-sensitivity.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures
Breathing protection required. Handle in accordance with good industrial hygiene and safety practice.

Environmental precautions
Prevent entry into drains and surface waters. Ensure compliance with local regulations before discharging into effluent treatment plants.

Methods and material for containment and cleaning up
For residues: Sweep/shovel up.
Dispose of absorbed material in accordance with regulations.

7. Handling and Storage

Precautions for safe handling
Avoid dust formation.

Protection against fire and explosion:
Store in a cool place. If heated the drums can burst due to pressure build-up.

Conditions for safe storage, including any incompatibilities
Segregate from nitrites and alkaline substances.
Do not store with: Sodium nitrate

Suitable materials for containers: High density polyethylene (HDPE), Low density polyethylene (LDPE), Stainless steel 1.4541, Stainless steel 1.4571

Further information on storage conditions: Store in unopened original containers in a cool and dry place.
Protect from temperatures above: 30 °C
Changes in the properties of the product may occur if substance/product is stored above indicated temperature for extended periods of time.

8. Exposure Controls/Personal Protection

Personal protective equipment

Respiratory protection:
Wear a NIOSH-certified (or equivalent) particulate respirator.

Hand protection:
Chemical resistant protective gloves

Eye protection:
Safety glasses with side-shields (frame goggles) (e.g. EN 166)

Body protection:
Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures:
Avoid inhalation of dust. At the end of the shift the skin should be cleaned and skin-care agents applied.

9. Physical and Chemical Properties

Form:	crystalline, powder	
Odour:	ammonia-like	
Odour threshold:	Not determined due to potential health hazard by inhalation.	
Colour:	white	
pH value:	10.0 (100 g/l, 20 °C)	
Melting point:	No data available.	(OECD Guideline 102)
Freezing point:	No data available.	
Boiling range:	No data available.	
Boiling point:	No data available.	
Flash point:	not applicable	
Flammability:	not highly flammable	(other)
Lower explosion limit:	For solids not relevant for classification and labelling.	
Upper explosion limit:	For solids not relevant for classification and labelling.	
Autoignition:	not applicable	
Vapour pressure:	82 mbar (20 °C) 442 mbar (45 °C)	
Density:	1.37 g/cm3 (19.9 °C, 1,013 hPa) Literature data.	(other)
Bulk density:	780 - 850 kg/m3	
Partitioning coefficient n-octanol/water (log Pow):	The substance / product decomposes therefore not determined.	(other)
Self-ignition temperature:	not self-igniting	
	not self-igniting	(other)
Thermal decomposition:	35 °C To avoid thermal decomposition, do not overheat.	
Viscosity, dynamic:	not applicable	
Solubility in water:	490 - 580 g/l (20 °C)	
Solubility (quantitative):	approx. 423 g/kg (0 °C)	
Molar mass:	78.07 g/mol	

Evaporation rate:	negligible, Value can be approximated from Henry's Law Constant or vapor pressure.

10. Stability and Reactivity

Reactivity

Oxidizing properties:
Based on its structural properties the product is not classified as oxidizing. (other)

Minimum ignition energy:
1 bar, 25 °C, Grain size distribution: 63 µm (VDI 2263, sheet 1, 2.1.2)
The product is not capable of a dust explosion.

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

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

Possibility of hazardous reactions
Exothermic reaction. Reacts with alkalis and nitrites. Reacts with nitrates. Incompatible with bases.

Conditions to avoid

Incompatible materials
bases, acids

Hazardous decomposition products

Decomposition products:
Hazardous decomposition products: ammonia, carbon dioxide

Thermal decomposition:
35 °C
To avoid thermal decomposition, do not overheat.

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: Of moderate toxicity after single ingestion. In animal studies the substance is virtually nontoxic after short-term inhalation. In animal studies the substance is virtually nontoxic after a single skin contact. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Oral
Type of value: LD50
Species: rat
Value: > 681 mg/kg (OECD Guideline 401)

Inhalation
Type of value: LC50
Species: rat (male/female)
Value: 6.6 mg/l (OECD Guideline 403)
Exposure time: 4 h
Product not examined: Value is calculated from the data of the components.
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Dermal
Type of value: LD50
Species: rat (male/female)
Value: > 2,000 mg/kg
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

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.

Irritation / corrosion
Assessment of irritating effects: May cause severe damage to the eyes. Not irritating to the skin.

Skin
Species: rabbit
Result: non-irritant
Method: OECD Guideline 404

Eye
Species: rabbit
Result: Risk of serious damage to eyes.
Method: OECD Guideline 405

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

Species: mouse
Result: Non-sensitizing.
Method: similar to OECD guideline 429

Aspiration Hazard
not applicable

Chronic Toxicity/Effects

Repeated dose toxicity
Assessment of repeated dose toxicity: No substance-specific organtoxicity was observed after repeated administration to animals. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Genetic toxicity
Assessment of mutagenicity: Mutagenicity tests revealed no genotoxic potential. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Carcinogenicity
Assessment of carcinogenicity: Did not show carcinogenic effects in animal experiments. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity
Assessment of reproduction toxicity: Study scientifically not justified.

Teratogenicity
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

12. Ecological Information

Toxicity

Aquatic toxicity
Assessment of aquatic toxicity:
Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish
LC50 (96 h) 37.0 mg/l, Pimephales promelas (EPA 72-1, static)

Aquatic invertebrates
EC50 (48 h) 63.7 mg/l, Daphnia magna (OECD Guideline 202, part 1, static)

Aquatic plants
EC50 (72 h) 129.13 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)

Chronic toxicity to fish
Study scientifically not justified.

EC10 (28 d) 4.18 mg/l, Pimephales promelas (other, Flow through.)
The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Chronic toxicity to aquatic invertebrates
EC10 (21 d) 4.81 mg/l, Daphnia magna (OECD Guideline 211, semistatic)
The product has not been tested. The statement has been derived from the properties of the hydrolysis products.

Assessment of terrestrial toxicity
No data available concerning terrestrial toxicity.
Study scientifically not justified.

Microorganisms/Effect on activated sludge

Toxicity to microorganisms
OECD Guideline 209 aerobic
activated sludge, domestic/EC20 (0.5 h): 1,000 mg/l

DIN 38412 Part 8 aquatic
bacterium/EC50 (17 h): 1,180 mg/l

Persistence and degradability

Assessment biodegradation and elimination (H2O)
Readily biodegradable (according to OECD criteria).

Elimination information

> 80 % CO2 formation relative to the theoretical value (28 d) (OECD 301B; ISO 9439; 92/69/EEC, C.4-C) (aerobic, activated sludge, domestic) Readily biodegradable (according to OECD criteria).

Assessment of stability in water
In contact with water the substance will hydrolyse rapidly.

Bioaccumulative potential

Assessment bioaccumulation potential
Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential
Study scientifically not justified.

Mobility in soil

Assessment transport between environmental compartments
The substance will slowly evaporate into the atmosphere from the water surface.
Adsorption to solid soil phase is not expected.

Additional information

Other ecotoxicological advice:
Do not release untreated into natural waters. Decomposition to non-hazardous substances takes place in water.

13. Disposal considerations

Waste disposal of substance:
Dispose of in accordance with national, state and local regulations. Do not discharge substance/product into sewer system.

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
TDG

Not classified as a dangerous good under transport regulations

Sea transport
IMDG

Not classified as a dangerous good under transport regulations

Air transport
IATA/ICAO

Not classified as a dangerous good under transport regulations

Further information
Specific national features of transport regulations must be observed. They are to be found in the shipping documents.

15. Regulatory Information

Federal Regulations

Registration status:
Chemical DSL, CA released / listed

NFPA Hazard codes:
Health: 3 Fire: 0 Reactivity: 0 Special:

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

Aquatic Acute	3	Hazardous to the aquatic environment - acute
Acute Tox.	4 (oral)	Acute toxicity
Eye Dam./Irrit.	1	Serious eye damage/eye irritation

16. Other Information

SDS Prepared by:
BASF NA Product Regulations
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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 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.

END OF DATA SHEET