

UREA EXTRA PURE

SECTION 1: PRODUCT IDENTIFICATION

Product Name: UREA, EXTRA PURE.

Product Code: 491.

CAS#: 57-13-6.

Synonym: Carbamide; Carbonyldiamine; Isourea; Ureaphil; Ureophil; Carbonyldiamide.

Chemical Name: Carbonyldiamide.

Chemical Formula: CH₄N₂O.

Formula Weight: 60.06.

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

Composition:

Name: UREA.

Toxicological Data on Ingredients: Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

SECTION 3: HAZARDS IDENTIFICATION

Potential Acute Health Effects: Slightly hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation.

Potential Chronic Health Effects:

CARCINOGENIC EFFECTS: Not available.

MUTAGENIC EFFECTS: Not available.

TERATOGENIC EFFECTS: Not available.

DEVELOPMENTAL TOXICITY: Not available. Repeated exposure to this product may result in damage to the vascular system.

SECTION 4: FIRST AID MEASURES

Eye Contact: Flush eyes with water as a precaution.

Skin Contact: Wash off with soap and plenty of water.

Serious Skin Contact: Not Available.

Inhalation: If breathed in, move person into fresh air. If not breathing, give artificial respiration.

Serious Inhalation: Not Available.

Ingestion: Never give anything by mouth to an unconscious person. Rinse mouth with water.

Serious Ingestion: Not available.

SECTION 5: FIRE FIGHTING MEASURES

Flammability of the Product: May be combustible at high temperature.

Auto-Ignition Temperature: Not Available.

Flash Points: Not Available.

Flammable Limits: Not Available.

Products of Combustion: Carbon oxides, nitrogen oxides, halogenated compounds.

Fire Hazards in Presence of Various Substances: No specific information is available regarding the flammability of this compound in the presence of various materials.

Explosion Hazards in Presence of Various Substances:

Risks of explosion of the product in presence of mechanical impact: Not available. Slightly explosive in presence of open flames and sparks.

Fire Fighting Media and Instructions:



SMALL FIRE: Use DRY chemical powder.

LARGE FIRE: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Special Remarks on Fire Hazards: Not Available.

Special Remarks on Explosion Hazards: Not Available.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Small Spill:

Use appropriate tools to put the spilled solid in a convenient waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:

Use a shovel to put the material into a convenient waste disposal container. Finish cleaning by spreading water on the Contaminated surface and allow evacuating through the sanitary system.

SECTION 7: HANDLING AND STORAGE

Precautions: Keep away from heat. Keep away from sources of ignition. Empty containers pose a fire risk, evaporate the residue under a fume hood. Ground all equipment containing material. Do not breathe dust.

Storage: Keep container dry. Keep in a cool place. Ground all equipment containing material. Keep container tightly closed. Keep in a cool, well-ventilated place. Combustible materials should be stored away from extreme heat and away from strong oxidizing agents.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Exposure controls

Appropriate engineering controls Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection Safety glasses with side-shields conforming to EN166 Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Physical state and appearance Form	: Solid, crystalline powder.
Odour	: Not available
Taste	: Not available
Molecular Weight	: 60.06
Colour	: White
pH	: Not available
Boiling Point	: Not available
Melting Point	: Not available
Critical Temperature	: Not available



Specific Density	: Not Available
Vapor Pressure	: Not Available
Vapor Density	: Not available
Volatility	: Not Available
Odor Threshold	: Not Available
Water/Oil Dist. Coeff.	: Not Available
Ionicity (in Water)	: Not Available
Dispersion Properties	: Not Available
Solubility	: Very soluble in water, Soluble in Methanol, Soluble in Acetic acid, Soluble in concentrated hydrochloric acid.

SECTION 10: STABILITY AND REACTIVITY DATA

Stability: Stable at normal conditions.

Instability Temperature: Not available.

Conditions of Instability: Heat. Avoid dust formation. Incompatible materials..

Incompatibility with various substances: Oxidizing agents..

Corrosivity: Not Available.

Special Remarks on Reactivity: Reacts violently with Gallum Perchlorate. Reacts with chlorine to form chloramines. It also reacts with the following: sodium hypochlorite, sodium nitrate, calcium hypochlorite, NaNO₂, P₂Cl₅, nitrosyl perchlorate, strong oxidizing agents (permanganate, nitrate, dichromate, chloride).

Special Remarks on Corrosivity: Not Available.

Polymerization: Hazardous polymerisation does not occur.

SECTION 11: TOXICOLOGICAL INFORMATION

Routes of Entry: Absorbed through skin. Inhalation. Ingestion..

Toxicity to Animals:

LD₅₀: Oral - Rat - 8471 mg/kg.

Oral - mouse - 11000 mg/kg

Chronic Effects on Humans: The substance is toxic to blood.

Other Toxic Effects on Humans: Very hazardous in case of skin contact (irritant), of ingestion. Hazardous in case of inhalation.

Slightly hazardous in case of skin contact (permeator).

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not Available.

Special Remarks on other Toxic Effects on Humans: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity:

LC₅₀: *Poecilia reticulata* (guppy) - 17,500 mg/l - 96 h.

EC₅₀ - *Daphnia magna* (Water flea) - 3,910 mg/l - 48 h.

BOD and COD: Not available.

Products of Biodegradation: Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The products of degradation are as toxic as the original product.

Special Remarks on the Products of Biodegradation: This substance/mixture contains no components considered to be either persistent, bioaccumulative and Sigma - U5378 Page 6 of 6 toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.



SECTION 13: DISPOSAL CONSIDERATIONS

Waste Disposal: Waste must be disposed of in accordance with federal, state and local environmental control regulations.

SECTION 14: TRANSPORT INFORMATION

UN number:

ADR/RID:

IMDG:

IATA:

UN proper shipping name

ADR/RID:

IMDG:

IATA:

Transport hazard class (es):

ADR/RID:

IMDG:

IATA:

Packaging group:

ADR/RID:

IMDG:

IATA:

Environmental hazards:

ADR/RID:

IMDG Marine pollutant:

IATA:

SECTION 15: OTHER REGULATORY INFORMATION

Federal and State Regulations: TSCA 8(b) inventory: Urea.

Other Regulations: Not available.

Other Classifications:

WHMIS (Canada): Not controlled under WHMIS (Canada).

DSCL (EEC): Not applicable.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 1

Reactivity: 0

Personal Protection: E

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 1

Reactivity: 0

Specific hazard:

Protective Equipment:

Gloves, Lab coat, Safety glasses, Dust respirator - be sure to use an approved/certified respirator or equivalent.

SECTION 16: OTHER INFORMATION

References: Not available.

Other Special Considerations: Not available.

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