



MATERIAL SAFETY DATA SHEET

Product Identification

【Product Name】 2-Cyanoacetamide

【Synonyms】

2-Cyanoacetamide
α-L-Chloropropionic acid
Amid kyseliny kyanoctove (czech)
L-2-Chloropropanoic acid
L-2-Chloropropionic acid

【CAS】 107-91-5

【Formula】 C₃H₄N₂O

【Molecular Weight】 84.08

【EINECS】 203-351-8

【RTECS】 AB5950000

【RTECS Class】 Other

【Merck】 14,2688

【Beilstein/Gmelin】 1720257

【Beilstein Reference】 4-02-00-00745

【EC Index Number】 607-139-00-1

【EC Class】 harmful, corrosive

Physical and Chemical Properties

【Appearance】 White to yellow crystalline powder.

【Solubility in water】 Soluble.



【Melting Point】 117 - 120

【Boiling Point】 186

【Vapor Pressure】 0.26 (25 C)

【Density】 1.255 g/cm³

【pKa/pKb】 2.96 (pKa)

【Heat Of Vaporization】 64.9 kJ/mol

【Usage】 In organic syntheses (eg starting material for vitamin b6 synthesis).

【Vapor Density】 3.74

【Refractive Index】 1.43 (20 C)

First Aid Measures

【Ingestion】

Causes gastrointestinal tract burns. May cause systemic toxicity with acidosis. May cause perforation of the digestive tract. May cause cardiac disturbances. May cause central nervous system effects. May cause systemic effects.

【Ingestion】

If victim is conscious and alert, give 2-4 cupfuls of milk or water. Never give anything by mouth to an unconscious person. Get medical aid immediately.

【Ingestion】

Never give anything by mouth to an unconscious person. Get medical aid immediately. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

【Inhalation】

Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid.

【Inhalation】



Wuhan Xinru Chemical Industry Co., Ltd

Add: Room 2805, North Fuxinhuiyu, Changqing Road, Wuhan, China 430015

Tel: +86-27-5984 3600 Fax: +86-27-6666 0488

Get medical aid immediately. Remove from exposure to fresh air immediately. If breathing is difficult, give oxygen. DO NOT use mouth-to-mouth respiration. If breathing has ceased apply artificial respiration using oxygen and a suitable mechanical device such as a bag and a mask.

【Inhalation】

Causes chemical burns to the respiratory tract. Aspiration may lead to pulmonary edema. May cause cardiac abnormalities. May cause systemic effects. Exposure may produce metabolic acidosis. Inhalation at high concentrations may cause CNS depression and asphyxiation.

【Skin】

Get medical aid immediately. Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Destroy contaminated shoes.

【Skin】

Get medical aid. Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse.

【Skin】

Causes skin burns. May cause cyanosis of the extremities. May cause skin rash (in milder cases), and cold and clammy skin with cyanosis or pale color.

【Eyes】

Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid immediately.

【Eyes】

Get medical aid immediately. Do NOT allow victim to rub or keep eyes closed. Extensive irrigation is required (at least 30 minutes).

【Eyes】

Causes eye burns. May cause chemical conjunctivitis and corneal damage.

Handling and Storage

【Storage】



Wuhan Xinru Chemical Industry Co., Ltd

Add: Room 2805, North Fuxinhuiyu, Changqing Road, Wuhan, China 430015

Tel: +86-27-5984 3600 Fax: +86-27-6666 0488

Keep away from sources of ignition. Store in a cool, dry, well-ventilated area away from incompatible substances. Corrosives area.

【Handling】

Wash thoroughly after handling. Use only in a well ventilated area. Do not breathe dust, vapor, mist, or gas. Do not get in eyes, on skin, or on clothing. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep container tightly closed. Avoid contact with heat, sparks and flame. Do not ingest or inhale. Discard contaminated shoes. Do not pressurize, cut, weld, braze, solder, drill, grind, or expose empty containers to heat, sparks or open flames.

Hazards Identification

【Ingestion】

May cause irritation of the digestive tract. The toxicological properties of this substance have not been fully investigated.

【Inhalation】

May cause respiratory tract irritation. The toxicological properties of this substance have not been fully investigated.

【Skin】 May cause skin irritation.

【Eyes】 May cause eye irritation.

【Hazards】

When heated, vapors may form explosive mixtures with air: indoors, outdoors, and sewers explosion hazards.

【EC Risk Phrase】 R 21/22 35

【UN (DOT)】 2511

Exposure Controls/Personal Protection

【Personal Protection】

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166. Skin: Wear appropriate protective gloves to prevent skin exposure. Clothing: Wear appropriate protective clothing to prevent skin exposure.



【Respirators】

Follow the OSHA respirator regulations found in 29CFR 1910.134 or European Standard EN 149. Always use a NIOSH or European Standard EN 149 approved respirator when necessary.

【Exposure Effects】 Effects may be delayed.

【Poison Class】 4

Fire Fighting Measures

【Flash Point】 60

【Autoignition】 550

【Fire Fighting】

Wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. Use water spray to keep fire-exposed containers cool. Combustible Liquid. Contact with metals may evolve flammable hydrogen gas. Containers may explode when heated. Runoff from fire control or dilution water may cause pollution. Extinguishing media: Use water spray to cool fire-exposed containers. Do NOT get water inside containers. For small fires, use dry chemical, carbon dioxide, or water spray. For large fires, use dry chemical, carbon dioxide, alcohol-resistant foam, or water spray.

【Fire Potential】

Combustible material: may burn but does not ignite readily.

Accidental Release Measures

【Small spills/leaks】

Absorb spill with inert material, (e.g., dry sand or earth), then place into a chemical waste container. Avoid runoff into storm sewers and ditches which lead to waterways. Clean up spills immediately, using the appropriate protective equipment. Remove all sources of ignition. Use a spark-proof tool. Provide ventilation.

Stability and Reactivity

【Disposal Code】 3



Wuhan Xinru Chemical Industry Co., Ltd

Add: Room 2805, North Fuxinhuiyu, Changqing Road, Wuhan, China 430015

Tel: +86-27-5984 3600 Fax: +86-27-6666 0488

【Incompatibilities】 Oxidizing agents

【Stability】 Stable under normal temperatures and pressures.

【Incompatibilities】

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

【Decomposition】

Hydrogen cyanide, nitrogen oxides, carbon monoxide, carbon dioxide, nitrogen.

【Combustion Products】

Fire may produce irritating, corrosive and/or toxic gases.

Transport Information

【UN Number】 2511

【Hazard Class】 8

【Packing Group】 III

【HS Code】 2915 90 80