

MATERIAL SAFETY DATA SHEET (MSDS)

BETAINE ANHYDROUS

Section 1 - Chemical Product and Company Identification

- 1.1. Product Name: Betaine anhydrous
- 1.2. Chemical Formula: C₅H₁₁N-O₂
- 1.3. Molecular weight: 117.15
- 1.4. CAS #: 107-43-7
- 1.5. EINECS #: 203-490-6
- 1.6. Supplier: Orison Chemicals Limited, www.orisonchem.com
- 1.7. Usage: In food as nutritional supplements

2. Composition

- 2.1. Betaine Anhydrous: >99%
- 2.2. Hazardous impurities: Heavy metals Pb ≤0.001 % , As ≤0.0002%

3. Physical/Chemical Characteristics

- 3.1. Physical State: Powder
- 3.2. Appearance: White Crystals or crystalline powder
- 3.3. Odor: slight characteristic odor
- 3.4. PH: 5 - 7 (5% aq. sol.)
- 3.5. Melting point/range: 301°C (573.80°F)
- 3.6. Boiling point: Not available
- 3.7. Bulk density: Not available
- 3.8. Solubility: 160 g/100mL (25 C)

4. Stability/Reactivity

- 4.1. Chemical Stability: Stable under normal temperatures and pressures
- 4.2. Shelf Life: 24 months period
- 4.3. Hazardous decomposition: Carbon oxides (CO, CO₂), nitrogen oxides (NO, NO₂...)
- 4.4. Hazardous polymerization: Will not occur
- 4.5. Incompatible with: Strong oxidizing agents, trimethyl amine.

5. Handling/Storage

- 5.1. Storage: Kept in dry, cool, and shaded place with original packaging, avoid moisture, store at room temperature.
- 5.2. Handling precaution: Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Avoid ingestion and inhalation

6. Exposure Control

- 6.1. Engineering Controls: Use process enclosures, local exhaust ventilation, or other engineering controls to keep airborne levels below recommended exposure limits.
- 6.2. Respiratory protection: NIOSH/MSHA or European Standard EN 149 approved respirator
- 6.3. Eye Protection: Protective eyeglasses or chemical safety goggles
- 6.4. Skin Protection: Wear appropriate protective gloves and clothes to minimize skin contact.
- 6.5. Other: Consult professionals if Betaine Anhydrous need to be handled under some special conditions.

7. Hazards Identification

- 7.1. Hazardous overview: Betaine Anhydrous is Hygroscopic. The toxicological properties of this material have not been fully investigated. May cause eye, skin, and respiratory tract irritation.
- 7.2. Contact with eyes: May cause eye irritation.
- 7.3. Contact with skin: May cause skin irritation.
- 7.4. Ingestion: May irritate the tissues of the mouth, esophagus, and other tissues of the digestive system
- 7.5. Inhalation: May cause irritation to the respiratory tract and gastrointestinal
- 7.6. Other: Caution! Hygroscopic (absorbs moisture from the air).

8. First Aid Measures

- 8.1. Contact with eyes: Flush immediately with plenty of water for 15 minutes and seek medical advice
- 8.2. Contact with skin: Wash with soap and water. Cover the irritated skin with an emollient. Get medical attention if irritation develops.
- 8.3. Ingestion: Do not induce vomiting. Get medical aid if irritation or symptoms occur.
- 8.4. Inhalation: Remove from exposure, move to fresh air and seek medical advice immediately.

9. Fire and Explosion Data

- 9.1. General information: May be combustible at high temperature.
- 9.2. Flash point: Not available
- 9.3. Ignition control: Avoid Anhydrous ignition sources where Betaine powder might be generated.
- 9.4. Dust control: Keep the handling area with adequate ventilation
- 9.5. Extinguishing Media: Water spray, dry chemical or carbon dioxide
- 9.6. Spills/Leaks: Vacuum or sweep up material and place into a suitable disposal container. Absorb with DRY earth, sand or other non-combustible material. Do not touch spilled material. Prevent entry into sewers, basements or confined areas; dike if needed.

10. Transport Information

- 10.1. No special requirements and no restrictions on transportation by land, sea or air.
Not regulated as a hazardous material.

11. Ecological Information

- 11.1. Betaine Anhydrous is fully degradation biodegradable. The product itself and its products of degradation are not toxic

12. Other Information

- 12.1. This Safety Data Sheet of Betaine Anhydrous is based upon a limited review of Orison Chemicals files and standard Toxicological handbooks. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes.

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