Material Safety Data Sheet

Section 1 - Product and Company Information

Product Name: Bisbenzimide H 33342 trihydrochloride
Product Number: 92261
Brand: Sigma-Aldrich
Company: Sigma-Aldrich
Address: 2050 Spruce Street
City, State, Zip, Country: SAIN'T LOUIS, MO 63103 US
Technical Phone: 800-325-5852
Emergency Phone: 314-776-5555
Fax: 800-325-5852

Section 2 - Composition/Information on Ingredient

Substance Name | CAS # | SARA 313 | EC no | Annex Index Number
--- | --- | --- | --- | ---
BISBENZIMIDE HOECHST NO-33342 TRIHYDRO-CHLORIDE HYDRATE | 23491-52-3 | Yes | 245-691-1

Ingredient Name | CAS # | Percent | SARA 313
--- | --- | --- | ---
The following substances are present as residual components of production: ACETONITRILE | 75-05-6 | <= 2.000 % | Yes

Formula: C27H28N6O3·3HCl·xH2O
Synonyms:

Section 3 - Hazards Identification

Emergency Overview:
Toxic (USA) Harmful (EU).
Toxic in contact with skin. Risk of serious damage to eyes.
This material can produce a cyanide-like effect. Target organ(s): Central nervous system, Liver.

HMIS Rating:
Health: 2
Flammability: 0
Reactivity: 1

NFPA Rating:
Health: 2
Flammability: 0
Reactivity: 1

*additional chronic hazards present.
For additional information on toxicity, please refer to Section 11.

Section 4 - First Aid Measures

Inhalation Exposure:
If inhaled, remove to fresh air. If not breathing give artificial respiration. If breathing is difficult, give oxygen.

Dermal Exposure:
In case of skin contact, flush with copious amounts of water for at least 15 minutes. Remove contaminated clothing and shoes. Call a physician.

Eye Exposure:
In case of contact with eyes, flush with copious amounts of water for at least 15 minutes. Assure adequate flushing by separating the eyelids with fingers. Call a physician.

Section 5 - Fire Fighting Measures

Autoignition Temp: N/A
Extinguishing Media: Suitable
Water spray. Carbon dioxide, dry chemical powder, or appropriate foam.

Firefighting:
Protective Equipment:
Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
Specific Hazard(s):
Emits toxic fumes under fire conditions.

Section 6 - Accidental Release Measures

Procedure to be Followed in Case of Leak or Spill:
Evacuate area.

Procedure(s) of Personal Precaution(s):
Wear respirator, chemical safety goggles, rubber boots, and heavy rubber gloves.

Methods for Cleaning Up:
Sweep up, place in a bag and hold for waste disposal. Avoid raising dust. Ventilate area and wash spill site after material pickup is complete.

Section 7 - Handling and Storage

Handling:
User Exposure:
Do not breathe dust. Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated exposure.

Storage:
Suitable:
Keep tightly closed. Store at -20°C

Special Requirements:
Light sensitive.

Section 8 - Exposure Controls / PPE

Engineering Controls:
Safety shower and eye bath. Mechanical exhaust required.

Personal Protective Equipment:
Respiratory:
Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU). Where risk assessment shows air-purifying respirators are appropriate use a dust mask type N95 (US) or type P1 (EN 143) respirator.

Sigma-Aldrich - B2261
Page 2
Section 9 - Physical/Chemical Properties

Appearance
- Physical State: Solid

Molecular Weight: 551.94 AMU

pH: N/A
BP/MP Range: N/A
MP/RP Range: N/A
Freezing Point: N/A
Vapor Pressure: N/A
Vapor Density: N/A
Saturated Vapor Conc.: N/A
S/R&Density: N/A
Bulk Density: N/A
Odor Threshold: N/A
Volatile (%): N/A
VOC Content: N/A
Water Content: N/A
Solvent Content: N/A
Evaporation Rate: N/A
Viscosity: N/A
Partition Coefficient: N/A
Decomposition Temp.: N/A
Flash Point °F: N/A
Flash Point °C: N/A
Explosion Limits: N/A
Flammability: N/A
Autoignition Temp: N/A
Solubility: N/A

N/A = not available

Section 10 - Stability and Reactivity

Stability
- Stable

Conditions of Instability
- May discolor on exposure to light.
- Materials to Avoid
  - Strong oxidizing agents

Hazardous Decomposition Products
- Carbon monoxide, Carbon dioxide, Nitrogen oxides, Hydrogen chloride gas

Section 11 - Toxicological Information

Hazardous Polymerization
Hazardous Polymerization
Will not occur.

Route of Exposure
- Skin Contact
  - Causes skin irritation.
- Skin Absorption
  - May be harmful if absorbed through the skin.
- Eye Contact
  - May cause eye irritation.
- Inhalation
  - May be harmful if inhaled. Material is irritating to mucous membranes and upper respiratory tract.
- Ingestion
  - Harmful if swallowed.

Target Organ(s) or System(s)
- Liver, Kidneys, Central nervous system, Blood, Lungs.

Signs and Symptoms of Exposure
- This material can produce a cyanide-like effect. Always have a cyanide antidote kit present when using this material. The onset of symptoms is generally delayed pending conversion to cyanide. Adverse effects may include nausea, vomiting, diarrhea, headache, dizziness, rash, and cyanosis. Other symptoms include mental excitement or depression, drowsiness, impaired perception, incoordination, stupor, coma, and death.

Conditions Aggravated by Exposure
- Acetocyanite is metabolized in the liver to water, formaldehyde, and hydrogen cyanide. The cyanide is further metabolized to thiocyanate.

RETECS Number: N/A

Chronic Exposure - Carcinogen
- Result: This product is or contains a component that is not classifiable as to its carcinogenicity based on its IARC, ACGIH, NTP, or EPA classification.

Chronic Exposure - Mutagen
- Result: Scientific studies have indicated that this material has the capacity to bind to DNA and the potential to cause breaks in the DNA strand which lead to mutations. However, this material has not been listed as a Mutagen by an authoritative governmental source.

Section 12 - Ecological Information

No data available.

Section 13 - Disposal Considerations

Appropriate Method of Disposal of Substance or Preparation
- Contact a licensed professional waste disposal service to dispose of this material.
- Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.
- Observe all federal, state, and local environmental regulations.

Section 14 - Transport Information

DOT
- Proper Shipping Name: None
- Non-Hazardous for Transport

IATA
- Non-Hazardous for Air Transport
- Non-hazardous for air transport.
Section 15 - Regulatory Information

EU Additional Classification
Symbol of Danger: Xn
Indication of Danger: Harmful
Risk Statements: R: 22 37/38
Harmful if swallowed. Irritating to respiratory system and skin.
Safety Statements: S: 36/37
Wear suitable protective clothing and gloves.

US Classification and Label Text
Indication of Danger
Toxic (USA) Harmful (EU).
Risk Statements
Toxic in contact with skin. Risk of serious damage to eyes.
Safety Statements
In case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Wear suitable protective clothing, gloves, and eye/face protection. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).
US Statements
This material can produce a cyanide-like effect. Target organ(s): Central nervous system, Liver.

United States Regulatory Information
SARA Listed: Yes
Notes: This product is or contains a component that is subject to SARA Title III reporting requirements.

Canada Regulatory Information
WHMIS Classification
This product has been classified in accordance with the hazard criteria of the OPFDR, and the MSDS contains all the information required by the OPFDR.
DSL: Yes
NDSL: No

Section 16 - Other Information

Disclaimer
For R&D use only. Not for drug, household or other uses.

Warranty
The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Inc., shall not be held liable for any damage resulting from handling or from contact with the above product. See reverse side of invoice or packing slip for additional terms and conditions of sale. Copyright 2009 Sigma-Aldrich Co. License granted to make unlimited paper copies for internal use only.