



COCAINE HYDROCHLORIDE

1. Product Identification

Synonyms: Cocaine muriate; 1-a-H,5a-H-tropane-2b-carboxylic acid, 3b-hydroxy-methyl ester, benzoate (ester), hydrochloride; Cocaine Hydrochloride ARS-(FOR R&D USE ONLY)

CAS No.: 53-21-4

Molecular Weight: 339.82

Chemical Formula: C17H22ClNO4

Product Codes: 1318, 1520

2. Composition/Information on Ingredients

| Ingredient | CAS No | Percent | Hazardous |
|-----------------------|---------|---------|-----------|
| Cocaine hydrochloride | 53-21-4 | 100% | Yes |

3. Hazards Identification

Emergency Overview

DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. ALLERGEN. EXPOSURE MAY PRODUCE ALLERGIC RESPONSE. NARCOTIC.

Potential Health Effects

Inhalation:

Narcotic. Effects include dilation and immobility of eye pupils, euphoria and breathing difficulty. Large amounts can cause blindness. Also see Ingestion, below.

Ingestion:

Toxic. Narcotic. Extensive central nervous system involvement. Can cause narcotic effects and, in cases of excessive ingestion or inhalation, fainting, paleness, breathing arrest, sometimes brief convulsions, and death may occur in quick succession.

Skin Contact:

Numbness at area of contact will occur. The possibility of absorption under conditions of skin breakage or inflammation exists.

Eye Contact:

Mild irritant. Can be absorbed from solution with dilating effect on the pupil.

Chronic Exposure:

Can lead to habituation or addiction.

Aggravation of Pre-existing Conditions:

Some individuals may become sensitized from exposure and develop skin rashes, coughs, stuffy nose, asthma, and other allergic complaints. Sensitivity may develop soon after immediate contact or after years of exposure.

4. First Aid Measures

Inhalation:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

Ingestion:

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person.

Skin Contact:

Immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Call a physician, immediately. Wash clothing before reuse.

Eye Contact:

Immediately flush eyes with plenty of water for at least 15 minutes, lifting lower and upper eyelids occasionally. Get

medical attention immediately.

5. Fire Fighting Measures

Fire:

As with most organic solids, fire is possible at elevated temperatures or by contact with an ignition source.

Explosion:

Not considered to be an explosion hazard.

Fire Extinguishing Media:

Water spray, dry chemical, alcohol foam, or carbon dioxide.

Special Information:

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode. Follow handling guidance appropriate for OEB-2 potent compounds, (see Section 7).

6. Accidental Release Measures

Ventilate area of leak or spill. Remove all sources of ignition. Wear appropriate personal protective equipment as specified in Section 8, and follow handling guidance appropriate for OEB-2 potent compounds, (see Section 7). Isolate hazard area. Keep unnecessary and unprotected personnel from entering. All clean-up operations should be witnessed by more than one individual.

Spills: Carefully sweep up material into an appropriate container and save for reclamation or disposal. Use non-sparking tools and equipment. Do not flush to sewer! The amount of material collected should be assessed and documented.

7. Handling and Storage

Keep in a tightly closed container, stored in a cool, dry, ventilated area. Protect from physical damage and direct sunlight. CONTROLLED SUBSTANCE. Location of storage area must comply with all Drug Enforcement Agency regulations. Containers of this material may be hazardous when empty since they retain product residues (dust, solids); observe all warnings and precautions listed for the product.

Cocaine Hydrochloride has potent pharmacological activity and is classified as an OEB-2* material. Handling practices for OEB-2 substances are described below:

Laboratory

*Wear appropriate gloves, lab coat, and safety glasses. Use good lab practices.

*No local exhaust ventilation required for transfer/handling of quantities of powder less than 100 g (total weight transferred or handled). However, if the source container contains 2 kg or more, pilot plant practices apply.

*No local exhaust ventilation required for solutions of these compounds.

*Quantities of solid above 100 g require use of a powders weighing hood or other approved containment/ventilation system.

*High-energy operations such as milling, particle-sizing, spraying or fluidizing should be done within an approved emission control or containment system.

*Develop cleaning procedures and techniques that limit potential exposure.

Pilot Plant and Production

*Wear appropriate gloves; lab coat, nylon coveralls or disposable Tyvek suit; safety glasses and safety shoes. Use good manufacturing practices (i.e., cGMPs).

*Use local exhaust and/or enclosure at dust-generating points. Emphasis is to be placed on closed material transfer systems and process containment, with limited open handling of powders.

*Where open handling of powders occurs, use a powered, air-purifying respirator (PAPR) with HEPA cartridges or a supplied-air respirator (SAR), unless air-monitoring data has shown that a lower level of respiratory protection is adequate.

*Protective garments (coveralls, Tyveks, lab coat) are not to be worn in common areas (e.g., cafeterias) or out-of-doors.

*High-energy operations such as milling, particle-sizing, spraying or fluidizing should be done within an approved emission control or containment system.

*Develop cleaning procedures and techniques that limit potential exposure.

*OEB - Mallinckrodt's Occupational Exposure Band: The classification of a compound or pharmaceutical ingredient into one of four ordinal categories of increasing potency and toxicity. This rating assigns a set of pre-determined handling and containment practices to a compound until a quantitative OEL is established.

8. Exposure Controls/Personal Protection

Airborne Exposure Limits:

None established.

Ventilation System:

A system of local and/or general exhaust is recommended to keep employee exposures as low as possible. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion

of it into the general work area. Please refer to the ACGIH document, *Industrial Ventilation, A Manual of Recommended Practices*, most recent edition, for details.

Personal Respirators (NIOSH Approved):

Where open handling of powders occurs, use a powered, air-purifying respirator (PAPR) with HEPA cartridges or a supplied-air respirator (SAR), unless air-monitoring data has shown that a lower level of respiratory protection is adequate.

Skin Protection:

Wear protective gloves and clean body-covering clothing.

Eye Protection:

Use chemical safety goggles.

Other Control Measures:

Allergic responses in sensitive individuals will disappear if removed from exposure. See Section 7 for additional information on occupational control measures appropriate for OEB-2 potent compounds.

9. Physical and Chemical Properties

Appearance:

Transparent crystals, or white powder.

Odor:

Odorless.

Solubility:

250g in 100g of water.

Density:

No information found.

pH:

No information found.

% Volatiles by volume @ 21C (70F):

No information found.

Boiling Point:

Not applicable.

Melting Point:

195C (383F)

Vapor Density (Air=1):

No information found.

Vapor Pressure (mm Hg):

No information found.

Evaporation Rate (BuAc=1):

No information found.

10. Stability and Reactivity

Stability:

Stable under ordinary conditions of use and storage. Heat will contribute to instability.

Hazardous Decomposition Products:

Nitrogen oxides, oxides of carbon as well as ionic or oxidized halogen. Nitrogen oxides, oxides of carbon as well as ionic or oxidized halogen.

Hazardous Polymerization:

Will not occur.

Incompatibilities:

Calomel, mercuric oxide, silver nitrate, alkaloid precipitants.

Conditions to Avoid:

No information found.

11. Toxicological Information

Oral mouse LD50: 96 mg/kg; investigated as a mutagen, reproductive effector.

| -----\Cancer Lists\----- | | | |
|---------------------------------|----------------------|-------------|---------------|
| Ingredient | ---NTP Carcinogen--- | | IARC Category |
| | Known | Anticipated | |
| Cocaine hydrochloride (53-21-4) | No | No | None |

12. Ecological Information

Environmental Fate:

No information found.

Environmental Toxicity:

No information found.

13. Disposal Considerations

Notify site Drug Enforcement Agency compliance officer and local DEA office for appropriate disposal procedures. Processing, use or contamination of this product may change the waste management options. State and local disposal regulations may differ from federal disposal regulations. Follow handling guidance appropriate for OEB-2 potent compounds, (see Section 7). Dispose of container and unused contents in accordance with federal, state and local requirements.

14. Transport Information

Domestic (Land, D.O.T.)

Proper Shipping Name: Toxic, solids, organic, nos (2-Methoxycarbonyltropan-3-yl benzoate)
Hazard Class: 6.1
UN/NA: UN2811
Packing Group: III
Information reported for product/size: all sizes

International (Air, I.C.A.O.)

Proper Shipping Name: Toxic, solids, organic, nos (2-Methoxycarbonyltropan-3-yl benzoate)
Hazard Class: 6.1
UN/NA: UN2811
Packing Group: III
Information reported for product/size: all sizes

15. Regulatory Information

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-----\Chemical Inventory Status - Part 1\-----
Ingredient                TSCA  EC   Japan  Australia
-----
Cocaine hydrochloride (53-21-4)  Exempt Yes   No     No
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-----\Chemical Inventory Status - Part 2\-----
Ingredient                Korea  DSL  NDSL  Phil.
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Cocaine hydrochloride (53-21-4)  No    No   No    No
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-----\Federal, State & International Regulations - Part 1\-----
Ingredient                -SARA 302-  -SARA 313-
RQ  TPQ      List  Chemical Catg.
-----
Cocaine hydrochloride (53-21-4)  No  No      No     No
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-----\Federal, State & International Regulations - Part 2\-----
Ingredient                CERCLA  -RCRA-  -TSCA-
                261.33  8(d)
-----
Cocaine hydrochloride (53-21-4)  No      No      No
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Chemical Weapons Convention: No TSCA 12(b): No CDTPA: No
SARA 311/312: Acute: Yes Chronic: No Fire: No Pressure: No
Reactivity: No (Pure / Solid)

Australian Hazchem Code: None allocated.

Poison Schedule: S8

WHMIS:

This MSDS has been prepared according to the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all of the information required by the CPR.

16. Other Information

NFPA Ratings: Health: 3 Flammability: 1 Reactivity: 0

Label Hazard Warning:

DANGER! MAY BE FATAL IF SWALLOWED OR INHALED. ALLERGEN. EXPOSURE MAY PRODUCE

ALLERGIC RESPONSE. NARCOTIC.

Label Precautions:

Do not breathe dust.

Keep container closed.

Use only with adequate ventilation.

Wash thoroughly after handling.

Avoid prolonged or repeated contact with skin.

Label First Aid:

If swallowed, induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. In all cases call a physician.

Product Use:

Medication: Analgesic agent

Revision Information:

MSDS Section(s) changed since last revision of document include: 5, 6, 7, 8, 13, 14.

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