1. PRODUCT AND COMPANY IDENTIFICATION

Product name: (1S)-Verapamil hydrochloride
Product Number: V4629
Brand: Sigma
Supplier: Sigma-Aldrich
3000 Spruce Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-521-2, 800-555-0555
Fax: +1 800-521-2, 800-555-0555
Emergency Phone # (For both supplier and manufacturer): (314) 776-6555
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-2, 800-555-0555

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards: Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption
Target Organ: Cardiovascular system.

GHS Classification
Acute toxicity, Oral (Category 3)
Acute toxicity, Inhalation (Category 3)
Acute toxicity, Dermal (Category 3)

GHS Label elements, including precautionary statements
Pictogram: \[\text{Danger}\]
Signal word: Danger
Hazard statement(s): Toxic if swallowed or in contact with skin
H301 + H311
Precautionary statement(s): P261 Avoid breathing dust/ fume/ gas/ mist/ vapour/ spray.
P280 Wear protective gloves/ protective clothing.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.
P311 Call a POISON CENTER or doctor/ physician.

HMIS Classification
Health hazard: 2
Flammability: 0
Physical hazards: 0
NFPA Rating

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms: 5-[N-(3,4-Dimethoxyphenyl)ethylaminol]-2-(3,4-dimethoxyphenyl)-2-isopropylhexanamine hydrochloride
Formula: C_{22}H_{38}N_{2}O_{4} \cdot HCl
Molecular Weight: 491.06 gm/mol

Component | Concentration
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Verapamil hydrochloride | CAS No. 152-11-4
EC-No. 205-600-5 | |

4. FIRST AID MEASURES

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
If Inhaled: If breathed, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
If in case of skin contact: Wash off with soap and plenty of water. Take victim immediately. Consult a physician.
In case of eye contact: Flush eyes with water as a precaution.
If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

5. FIREFIGHTING MEASURES

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.
Special protective equipment for firefighters: Wear self-contained breathing apparatus for fire fighting if necessary.
Hazardous combustion products: Hazardous decomposition products formed under fire conditions. - Carbon oxides, nitrogen oxides (NOx), Hydrogen chloride gas

6. ACCIDENTAL RELEASE MEASURES

Personal precautions: Wear respiratory protection. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust.
Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.
Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
7. HANDLING AND STORAGE

**Precautions for safe handling**
Avoid contact with skin and eyes. Avoid formation of dust and aerosols.
Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

**Conditions for safe storage**
Keep container tightly closed in a dry and well-ventilated place.
Light sensitive. Keep in a dry place.

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8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

**Personal protective equipment**

**Respiratory protection**
Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N99 (US) or type P2 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Hand 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.

**Eye protection**
Face shield and safety glasses. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

**Skin and body protection**
Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the hazardous substance at the specific workplace.

**Hygiene measures**
Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

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9. PHYSICAL AND CHEMICAL PROPERTIES

**Appearance**
- **Form**: powder
- **Colour**: white

**Safety data**
- **pH**: no data available
- **Melting point / freezing point**: no data available
- **Boiling point**: no data available
- **Flash point**: no data available
- **Ignition temperature**: no data available
- **Autoignition temperature**: no data available
- **Lower explosion limit**: no data available
- **Upper explosion limit**: no data available
- **Vapour pressure**: no data available
- **Density**: no data available
- **Water solubility**: no data available

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<th>Property</th>
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<tr>
<td>Evaporation rate</td>
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</tbody>
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10. STABILITY AND REACTIVITY

**Chemical stability**
Stable under recommended storage conditions.

**Possibility of hazardous reactions**
no data available

**Conditions to avoid**
no data available

**Materials to avoid**
Bases

**Hazardous decomposition products**
- Carbon oxides, nitrogen oxides (NOx), Hydrogen chloride gas
- Other decomposition products - no data available

11. TOXICOLOGICAL INFORMATION

**Acute toxicity**
- Oral LD₅₀: no data available
- LD₅₀ Oral - rat - 108 mg/kg
- Inhalation LC₅₀: no data available
- Dermal LD₅₀: no data available
- Other information on acute toxicity: no data available

**Skin corrosion / irritation**
- no data available

**Serious eye damage / eye irritation**
- no data available

**Respiratory or skin sensitization**
- no data available

**Germ cell mutagenicity**
- no data available

**Carcinogenicity**
- **IARC**: 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.
- **ACGIH**: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.
- **NTP**: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.
- **OSHA**: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

**Reproductive toxicity**
- no data available
Proper shipping name: Toxic solids, organic, n.o.s. (Verapamil hydrochloride)
Marine pollutant: No
Peston inhalation Hazard: No

IMDG
UN number: 2811  Class: 6.1  Packing group: III  EMS No: F-A S-A
Proper shipping name: TOXIC SOLID, ORGANIC, N.O.S. (Verapamil hydrochloride)
Marine pollutant: No

IATA
UN number: 2811  Class: 6.1  Packing group: III
Proper shipping name: Toxic solid, organic, n.o.s. (Verapamil hydrochloride)

15. REGULATORY INFORMATION
OSHA Hazards
Toxic by inhalation. Toxic by ingestion. Toxic by skin absorption

SARA 302 Components
SARA 302: No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 313 Components
SARA 313: This material does not contain any chemical components with known CAS numbers that exceed the threshold (0.1%) reporting levels established by SARA Title III, Section 313.

SARA 313/12 Hazards
Acute Health Hazard

Massachusetts Right To Know Components
No components are subject to the Massachusetts Right to Know Act.

Pennslyvania Right To Know Components

California Prop. 65 Components
This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

16. OTHER INFORMATION
Further Information
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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 Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

12. ECOLOGICAL INFORMATION
Toxicity
no data available
Persistence and degradability
no data available
Bioaccumulative potential
no data available
Mobility in soil
no data available
PBET and vPBET assessment
no data available
Other adverse effects
no data available

13. DISPOSAL CONSIDERATIONS
Product
Offer surplus and non-recyclable solutions to a licensed disposal company. 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.
Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION
DOT (US)
UN number: 2811  Class: 6.1  Packing group: III