1. PRODUCT AND COMPANY IDENTIFICATION

Product name: (S)-(−)-1,1′-Bi(2-naphthol)
Product Number: 246956
Brand: Aldrich
Supplier: Sigma-Aldrich
3505 Spacee Street
SAINT LOUIS MO 63103
USA
Telephone: +1 800-325-5832
Fax: +1 800-325-5832
Emergency Phone #: (314) 776-5655
Preparation Information: Sigma-Aldrich Corporation
Product Safety - Americas Region
1-800-521-8598

2. HAZARDS IDENTIFICATION

Emergency Overview
OSHA Hazards
Toxic by ingestion, irritant
GHS Classification
Acute toxicity, Oral (Category 3)
Eye irritation (Category 2A)
GHS Label elements, including precautionary statements
Pictogram
Signal word: Danger
Hazard statement(s)
H301: Toxic if swallowed.
H310: Causes serious eye irritation.
Precautionary statement(s)
P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Synonyms:
(S)-BINOL
(−)-2,2′-Dihydroxy-1,1′-binaphthyl
(S)−,1,1′-Binaphthyl-2,2′-diol
Formula: C₂₀H₁₄O₂
Molecular Weight: 326.32 g/mol
Component: (S)-1,1′-Bi-2-naphthol
CAS-No.: 18531-93-2

4. FIRST AID MEASURES

General advice
Consult a physician. Show this safety data sheet to the doctor in attendance. Move out of dangerous area.
Inhaled
If inhaled, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.
In case of skin contact
Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.
In case of eye contact
Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.
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

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.
6. 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.

Immersion protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 480 min
Material tested: Dermatix® (Aldrich 2672772, Size L)

Splash protection
Material: Nitrile rubber
Minimum layer thickness: 0.11 mm
Break through time: > 30 min
Material tested: Dermatix® (Aldrich 2672772, Size L)

Data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 873000, e-mail sales@kcl.de, test method: EN374.

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an Industrial Hygienist familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

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 605 (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 dangerous substance at the specific workplace.

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

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance
Form: powder
Colour: white

Safety data
pH: 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
Partition coefficient: n-octanol/water: no data available
Relative vapour density: no data available
Odour: no data available
Odour Threshold: no data available
Evaporation rate: no data available

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
Strong oxidising agents

Hazardous decomposition products
Hazardous decomposition products formed under fire conditions: Carbon oxides

Other decomposition products: no data available

11. TOXICOLOGICAL INFORMATION

Acute toxicity
Oral LD50
L50 Oral: rat - 113 mg/kg
Remarks: Behavioral/Tremor, Behavioral/Convulsions or effect on seizure threshold. Nutritional and Gross Metabolic: Weight loss or decreased weight gain.

Inhalation LC50
no data available

Dermal LD50
no data available

Other Information on acute toxicity
no data available

Skin corrosion/irritation
Serious eye damage/eye irritation

Skin - rabbit: Moderate eye irritation

Respiratory or skin sensitization
no data available

Skin corrosion/irritation
Serious eye damage/eye irritation

Eye - rabbit: Moderate eye irritation

Respiratory or skin sensitization
no data available

Carcinogenicity
Aldrich - 26556
Delivery 084316231-008090 Purchase Order CC/13er Page 4 of 7

Aldrich - 26556
Delivery 084316231-008090 Purchase Order CC/13er Page 4 of 7
12. ECOLOGICAL INFORMATION

Toxicity
no data available

Persistence and degradability
no data available

Bioaccumulative potential
no data available

Mobility in soil
no data available

PBT and vPvB 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 air blower and scrubber.

Contaminated packaging
Dispose of as unused product.

14. TRANSPORT INFORMATION

DOT (US)
UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solids, organic, n.o.s. (S)-1,1'-Bi-2-naphthol
Marine pollutant: No
Poison 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. (S)-1,1'-Bi-2-naphthol
Marine pollutant: No

IATA
UN number: 2811 Class: 6.1 Packing group: III
Proper shipping name: Toxic solid, organic, n.o.s. (S)-1,1'-Bi-2-naphthol

15. REGULATORY INFORMATION

OSHA Hazards
Toxic by Ingestion, Irritant

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 chemicals with known CAS numbers that exceed the threshold (De Minimis) reporting level established by SARA Title III, Section 313.

SARA 311/312 Hazards
Acute Health Hazard

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

Pennsylvania Right To Know Components
(S)-1,1'-Bi-2-naphthol
CAS-No: 18531-99-2
Revision Date: 2012-11-29

New Jersey Right To Know Components
(S)-1,1'-Bi-2-naphthol
CAS-No: 18531-99-2
Revision Date: 2012-11-29

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
Copyright 2012 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.
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.