

Material Safety Data Sheet

1. Product and Company Identification

Effective Date: 06/03/2002

Revision: 01

THERMA-SWIM

Principal Use: Liquid solar blanket

Description: Clear, blue liquid

N. Jonas and Co., Inc.

4520 Adams Circle

P.O. Box 425

Bensalem, PA 19020-0425

Telephone: (215) 639-8071

Only in the Event of a Transportation Emergency Involving Spills, Leaks, Fires or Accidents, call CHEMTREC at (800) 424-9300.

2. Composition/Information on Ingredients

Ingredients:

2-propanol (CAS 67-63-0)

1-hexadecanol (CAS 36653-82-4)

%(w/w)

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OSHA PEL

400 ppm

Not listed

Ingredients not precisely identified are proprietary or non hazardous. Values are not product specifications.

3. Hazards Identification

Emergency Overview

Appearance:

Clear, blue liquid

Physical Hazards:

Flammable liquid

Health Hazards:

Irritant (skin, eye, respiratory passages). Inhalation (TLV). Affects central nervous system. May be harmful if absorbed through skin.

* Hazard summary defined by OSHA Hazard Comm. Std., 29 CFR 1910.1200.

Potential Health Effects:

General:

This health hazard assessment based on information from commercial and scientific literature.

Ingestion:

Ingestion can cause drowsiness, unconsciousness and death. Gastrointestinal pain, cramps, nausea, vomiting and diarrhea may also result.

Eye Contact:

Can cause eye irritation.

Skin Contact:

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May cause irritation.

Skin Absorption:

Harmful if absorbed through skin.

Inhalation:

Breathing vapors, mists or aerosols may cause irritation of the respiratory passages.

4. First Aid Measures:

First Aid - Eyes:

Immediately flush eyes with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Have eyes examined and treated by medical personnel.

First Aid - Skin:

Remove contaminated clothing. Wash material off the skin with soap and plenty of water. If redness, itching or a burning sensation develops, get medical attention. Launder contaminated clothing before reuse.

First Aid - Ingestion:

Do not induce vomiting. Give 1 or 2 glasses of water to drink. If gastrointestinal symptoms develop, consult medical personnel. Never give anything by mouth to an unconscious person.

First Aid - Inhalation:

Remove victim to fresh air. If cough or other respiratory symptoms develop, consult medical personnel.

5. Fire Fighting Measures

Flashpoint and Method:

54 deg. F.; 12 deg. C.

Autoignition Temperature:

750 deg. F.; 399 deg. C.

Explosive Limits:

Lower: 2.0; Upper: 12.7 (% by volume)

General Hazards:

This product is a flammable liquid. Keep work area free of hot metal surfaces and other sources of ignition.

Fire Fighting Instructions:

Use carbon dioxide, foam or dry chemical. Water may be unsuitable for extinguishing fire involving this product, but may be helpful in diluting the material to nonflammable concentrations and for keeping adjacent containers cool. Avoid spreading burning liquid with water used for cooling purposes.

Fire Fighting Equipment:

Self-contained breathing apparatus with full facepiece and protective clothing.

Hazardous Combustion Products:

Carbon dioxide and carbon monoxide

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6. Accidental Release Measures

Spill Measures:

Ventilate spill area. Remove all sources of ignition. Wear skin, eye and respiratory protection. Contain and recover liquid when possible. Use nonsparking tools and equipment. Collect liquid in an appropriate container or absorb with an inert materials (e.g. vermiculite, dry sand, earth). Do not use combustible materials such as sawdust. Sweep up absorbent material, place in a chemical waste container and remove from work area.

7. Handling and Storage

Handling:

Use in a well ventilated area away from all sources of ignition. Do not allow smoking in use area. Only use nonsparking tools and equipment.

Storage:

Store in a cool, well ventilated area, away from sources of ignition. Storage areas should be designated NO SMOKING area.

8. Exposure Controls/Personal Protection

Exposure Guidelines:

No ACGIH TLV or OSHA PEL assigned to this product. The ACGIH TLV and OSHA PEL for 2-propanol are 400 ppm. Minimize exposure in accordance with good hygiene practice.

Engineering Controls:

Use ventilation adequate to maintain safe levels. Provide eyewash station and safety shower in work area.

Respiratory Protection:

Use MSHA/NIOSH approved respirator for organic vapors, dusts and fumes whose TLV is greater than 0.05 mg/m³.

Protective Clothing:

Wear gloves and other clothing to prevent skin contact.

Eye Protection:

Use chemical safety goggles and/or a full faceshield where splashing is possible.

9. Chemical and Physical Properties

<u>Appearance:</u>	Clear, blue liquid
<u>Boiling Point:</u>	180 deg. F; 82 deg. C.
<u>Vapor Pressure:</u>	44 mg Hg @ 77 deg. F. (25 deg. C.)
<u>Vapor Density:</u>	2.1 (Air = 1)
<u>Solubility in Water:</u>	Miscible
<u>pH:</u>	No data
<u>Specif. Grav./Density:</u>	0.8
<u>% Volatile:</u>	100

10. Stability and Reactivity

Stability:

Stable under normal conditions. Heat and sunlight can contribute to instability.

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Incompatibility:

Heat, flame, strong oxidizers, anhydride, isocyanate, organometallic contaminants

Hazardous Decomposition Products:

Carbon dioxide and carbon monoxide

Hazardous Polymerization:

Will not occur.

11. Toxicological Information

Possible Human Health Effects:

Inhalation:

Inhalation of vapors can irritate respiratory passages. Exposure to high concentrations has a narcotic effect which produces symptoms of dizziness, drowsiness, headache, staggering, unconsciousness and possibly death.

Skin Contact:

May cause irritation.

Eye Contact:

Can cause eye irritation.

Ingestion:

Ingestion can cause drowsiness, unconsciousness and death. Gastrointestinal pain, cramps, nausea and diarrhea may result.

Other Effects of Overexposure:

None known

Note to Physician:

Not applicable.

12. Ecological Information

This product is completely soluble in water. Care should be taken to minimize release of undiluted product into the environment.

13. Disposal Consideration

Disposal Method:

Because of a flashpoint below 140 deg. F, discarded product is a hazardous waste, number D001, under RCRA, 40 CFR 261.21. Dispose of in a facility permitted for hazardous waste.

Container Disposal:

Empty container retains product residue. Observe all hazard precautions. Do not distribute, furnish, reuse empty container except for storage and shipment of original product. Remove all product residue from container and puncture or otherwise destroy container before disposal.

14. Transport Information

DOT Hazard Description:

DOT Hazard Description

Proper Shipping Name: ISOPROPANOL

Hazard Class: 3

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Identification Number: UN 1219
Packing Group: II
Hazardous Substance (RQ): None
Placard/Label: FLAMMABLE LIQUID

15. Regulatory Information

TSCA (Toxic Substances Control Act) Regulations, 40 CFR 710:

All ingredients are listed on the TSCA Chemical Substances Inventory.

CERCLA and SARA Regulations (40 CFR 355, 370, 372):

This product does not contain any chemicals subject to the reporting requirements of SARA Section 313.

California Proposition 65:

None

16. Other Information

The information herein is given in good faith, but no warranty, expressed or implied, is made.

HMIS and NFPA Ratings

<u>Hazard:</u>	<u>HMIS Ratings:</u>	<u>NFPA Ratings:</u>
<u>Health:</u>	2	2
<u>Flammability:</u>	3	3
<u>Reactivity:</u>	0	0

HMIS and NFPA Hazard Rating Codes:

0 - Least 1 - Slight 2 - Moderate 3 - High 4 - Severe

NOTE: These HMIS and NFPA Ratings are for "new" product. See appropriate sections of this MSDS for specific hazard information and safe handling instructions.

NATRIUM PRODUCTS INC

58 Pendleton St. PO Box 5465 Cortland, NY 13045 Ph: 1-800-962-4203 Fax: 607-753-0552

MATERIAL SAFETY DATA SHEET

PH UP, PH PLUS
PH INCREASER
SODA ASH

SODIUM CARBONATE, ANHYDROUS, SODA ASH, DENSE

ISSUE DATE: December 13, 2005

SUPERSEDES: September 17, 2001

1. INGREDIENTS:

Sodium Carbonate

CAS #

497-19-8

FORMULA

Na_2CO_3

PERCENT

100

2. HAZARD IDENTIFICATION:

Key: 4 Severe
3 Serious
2 Moderate
1 Slight
0 Minimal

HMIS RATING

Health 2
Flammability 0
Reactivity 0
Protection J

NFPA RATING

Health 2
Flammability 0
Reactivity 0
Special None

HMIS "J" Rating = Safety goggles, gloves, dust & vapor respirator

3. FIRST AID:

EYES: Irrigate with flowing water immediately and continuously for 15 minutes, while keeping the eye lids open. Consult a physician or ophthalmologist.

SKIN: Wash with plenty of soap and water. Seek medical attention if irritation develops or persists.

INGESTION: Do not induce vomiting. If patient is conscious, give them 1-2 glasses of water. Seek medical attention immediately if overdose is taken.

INHALATION: Remove to fresh air. Seek medical attention if discomfort persists.

NOTE TO PHYSICIAN: Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema or bronchitis. Skin contact may aggravate existing skin disease.

4. FIRE AND EXPLOSION HAZARD DATA:

FLASH POINT: Non-combustible

FLAMMABLE LIMITS: Not Applicable

EXTINGUISHING MEDIA: Non-combustible

FIRE & EXPLOSION HAZARDS: None

FIRE FIGHTING EQUIPMENT: Wear full protective clothing and self contained breathing apparatus.

5. ACCIDENTAL RELEASE MEASURES

Sweep up into clean dry containers for salvage or disposal. Dispose in accordance with applicable federal, state and local laws and regulations.

6. HANDLING & STORAGE

Avoid prolong and repeated contact with the skin or eyes. Use approved respiratory protection when dust is a problem.

Store in a cool, dry place away from any incompatible materials.

7. EXPOSURE CONTROL/PERSONAL PROTECTION

Provide general and/or local exhaust ventilation to control airborne dust. Personal protection requirements will vary dependent upon work environment conditions and material handling practices. Appropriate equipment should be selected for the particular situation encountered. Some recommendations for dusty conditions include;

Respiratory: NIOSH approved dust respirator

Eyes & Face: Safety glasses and/or goggles

Miscellaneous: Suitable clothing to prevent prolonged skin contact

Sodium Carbonate

8. PHYSICAL DATA:

APPEARANCE: White granules, solid
SPECIFIC GRAVITY: 2.53 @ 20°C
MELTING POINT: 851°C
VAP PRESS: Not Applicable
SOL. IN WATER: 33% maximum

ODOR: Odorless
pH (1% solution) 11.3
BOILING POINT: Not Applicable
VAP DENSITY: Not Applicable
MOLECULAR WGT. 105.99

9. STABILITY & REACTIVITY:

STABILITY: Stable under normal handling and storage conditions.
INCOMPATIBILITY: Reacts with acids to release carbon dioxide
HAZARDOUS DECOMPOSITION PRODUCTS: Carbon dioxide is evolved at very high temperatures or when mixed with acids.
HAZARDOUS POLYMERIZATION: Will not occur.

10. TOXICOLOGICAL INFORMATION:

Eye effects: Severe irritant
Skin effects: Non-irritating to intact skin. Minor irritation to abraded skin.
Acute effects from overexposure: May cause severe irritation to the eyes. Dusts and mists may be irritating to the skin, mucous membranes and upper respiratory tract.
Chronic effects from overexposure: This product does not contain any substances considered by OSHA, NTP, IARC, or ACGIH to be "probable" or "suspected" human carcinogens.

11. DISPOSAL CONSIDERATIONS:

Dispose in accordance with pertinent federal, state and local regulations.

12. TRANSPORTATION INFORMATION:

Not regulated by the Department of Transportation

13. REGULATORY INFORMATION:**S.A.R.A. TITLE III**

SECTION 302 (40 CFR 355) Extremely Hazardous Substances - Not Listed
SECTION 311 (40 CFR 370) Hazard Category - Immediate (Acute) Health Hazard
SECTION 312 (40 CFR 370) Threshold Planning Quantity - 10,000 lbs.
SECTION 313 (40 CFR 372) Reportable Ingredients- Not Listed

CERCLA (40 CFR 302.4) - Not applicable

TSCA (40 CFR 710) - Listed

EPA HAZARDOUS WASTE- NO

State - This product does not contain any components that are regulated under California Proposition 65.

14. REVISION SUMMARY

December 13, 2005 - Added regulatory information. Replaces MSDS dated September 17, 2001

15. ADDITIONAL INFORMATION:

The information herein is given in good faith, however, no warranty, expressed or implied, is made.