

**SAVOGRAN COMPANY  
ISOPROPANOL 99%**

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4012

SCL SAVOGRAN  
PO Box 130  
Norwood, MA 02062  
Telephone: 781-762-5400  
Toll Free: 800-225-9872  
Fax: 781-762-1095

Date Prepared April 7, 2005  
Product Number 4012  
  
Chemtrec 800-424-9300

**MATERIAL SAFETY DATA SHEET**

**A. IDENTIFICATION AND EMERGENCY INFORMATION**

<b>Product Name</b> Isopropanol 99%	<b>Product Code</b> 4012
<b>Chemical Name</b> 2-Propanol	<b>CAS Number</b> 67-63-0

**Product Appearance and Odor**  
Clear Colorless Liquid

**B. COMPONENTS AND HAZARD INFORMATION**

Components	Cas. No. Of Components	Approximate Concentration
Isopropanol	67-63-0	100%

**Hazardous Materials Identification System (HMIS)**

Health	Flammability	Reactivity	Basis	
2	3	0		Recommended by SAVOGRAN

<b>Exposure limit for total product</b>	<b>Basis</b>
200 ppm TWA/400 ppm STEL,A4	ACGIH
400 ppm (980 mg/m <sup>3</sup> ) TWA	OSHA
500 ppm (1225 mg/m <sup>3</sup> ) STEL	OSHA

**C. PRIMARY ROUTES OF ENTRY AND EMERGENCY AND FIRST AID PROCEDURES**

**Eye Contact**

Immediately flush eyes with large amounts of water for at least 15 minutes. Get prompt medical attention.

**Skin**

Immediately flush with large amounts of water; use soap if available. Remove contaminated clothing, including shoes, after flushing has begun.

**Inhalation**

Using proper respiratory protection, immediately remove the affected victim from exposure. Administer artificial respiration if breathing is stopped. Keep at rest. Call for prompt medical attention.

**Ingestion**

If ingested, DO not induce vomiting. Keep at rest. Get prompt medical attention.

**D. FIRE AND EXPLOSION HAZARD INFORMATION**

<b>Flash Point (Minimum)</b> 53 <sup>o</sup> f	<b>Autoignition Temperature</b> Minimum 750 <sup>o</sup> f
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Tag Closed Cup

**National Fire Protection Association (NFPA) - Hazard Identification**

Health	Flammability	Reactivity	Basis
1	3	0	

Recommended by the National Fire Protection Association  
Hazard Rating Least - 0 Slight - 1 Moderate - 2  
High - 3 Extreme - 4

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### Handling Precautions

This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas of travel some distance along the ground or surface to ignition sources where they may ignite or explode.

Keep product away from ignition sources, such as heat, sparks, pilot lights, static electricity, and open flames.

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### Flammable or explosive limits (approximate percent by volume in air)

Estimated values: Lower Flammable limit 2.0% Upper Flammable limit 12.0 %

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### Extinguishing Media and Fire Fighting Procedures

Foam, water spray (fog), dry chemical, carbon dioxide and vaporizing liquid type extinguishing agents may all be suitable for extinguishing fires involving this type of product, depending on size of potential size of fire and circumstances related to the situation.

Plan fire protection and response strategy through consultation with local fire protection authorities or appropriate specialists.

The following procedures for this type of product are based on the recommendations in the National Fire Protection Association's "Fire Protection Fire Protection Guide on Hazardous Materials", Eighth Edition (1984)

Use dry chemical, foam or carbon dioxide to extinguish the fire. Water may be ineffective, but water should be used to keep fire-exposed containers cool. If a leak or spill has ignited, use water spray to disperse the vapors and to protect men attempting to stop a leak. Water spray may be used to flush spills away from exposures. Minimize breathing or gases, vapor, fumes or decomposition products. Use supplied-air breathing equipment for enclosed or confined spaces or as otherwise needed.

**NOTE:** The inclusion of the phrase "water may be ineffective": is to indicate that although water can be used to cool and protect exposed material, water may not extinguish the fire unless used under favorable conditions by experienced fire fighters trained in fighting all types of flammable liquid fires.

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Decomposition products under fire conditions

No Unusual

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### "Empty" container warning

"Empty" containers retain residue (liquid and/or vapor) and can be dangerous. DO NOT PRESSURIZE, CUT, WELD, BRAZE, SOLDER, DRILL, GRIND OR EXPOSE SUCH CONTAINERS TO HEAT, FLAME, SPARKS, STATIC ELECTRICITY, OR OTHER SOURCES OF IGNITION; THEY MAY EXPLODE AND CAUSE INJURY OR DEATH. Do not attempt to clean since residue is difficult to remove. "Empty" drums should be completely drained, properly bunged and promptly returned to a drum reconditioner. All other containers should be disposed of in an environmentally safe manner and in accordance with governmental regulations. For work on tanks refer to Occupational Safety and Health Administration regulations, ANSI A49.1, and other governmental and industrial reference pertaining to cleaning, repairing, welding, or other contemplated operations.

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## E. HEALTH AND HAZARD INFORMATION

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### Variability among Individuals

Health studies have shown that many petroleum hydrocarbons and synthetic lubricants pose potential human health risks which may vary from person to person. As a precaution, exposure to liquids, vapors, mists, or fumes should be minimized.

### Effects of overexposure (signs and symptoms of exposure)

#### Eye Contact:

Irritating, and will injure eye tissue if not removed promptly.

#### Skin Contact:

Frequent or prolonged contact may irritate and cause dermatitis. Low order of toxicity.

#### Inhalation:

High vapor concentrations are irritating to the eyes and the respiratory tract, may cause headaches and dizziness, are anesthetic and may have other central nervous system effects. Negligible hazard at ambient temperature (-18 to 38 Dec. C; 0 to 100 F)

#### Ingestion:

Minimal toxicity.

Small amounts of the liquid aspirated into the respiratory system during ingestion, or from vomiting, may cause bronchopneumonia or pulmonary edema.

#### Pre-Existing Medical conditions which may be aggravated by exposure

None known

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## F. PHYSICAL DATA

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The following data are approximate or typical values and should not be used for precise design purposes.

#### Boiling Range

180<sup>o</sup>f

#### Vapor Pressure

30 mm hg @ 68<sup>o</sup>f

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**Specific Gravity (15.6 C/15.6 C)**  
0.79

**Vapor Density (Air=1)**  
Greater than 1

**Molecular Weight**  
60.09

**Percent Volatile by Volume**  
100%

**PH**  
Not applicable

**Evaporation Rate @ 1 ATM and 25<sup>0</sup>C (77F)**  
**(n-ButylAcetate =1)**  
2.5

**Pour, Congealing or Melting Point**  
Less than 32<sup>0</sup>f

**Solubility in Water @ 1 ATM and 25 C (77F)**  
Complete

**Viscosity**  
3 cst @ 77<sup>0</sup>f

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**G. REACTIVITY**

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Hazardous Polymerization will not occur.  
Incompatible with caustics, amines, oxidizers, and chlorinated compounds.

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**H. ENVIRONMENTAL INFORMATION**

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**Steps to be taken in case material is released or spilled**

Shut off and eliminate all ignition sources. Keep people away. Recover free product. Add sand, earth or other suitable absorbent to spill area. Minimize breathing vapors. Minimize skin contact. Ventilate confined spaces. Open all windows and doors. Keep product out of sewers and watercourses by diking or impounding. Advise authorities if product has entered or may enter sewers, watercourses, or extensive land areas.

Assure conformity with applicable governmental regulations. Continue to observe precautions for volative, flammable vapors from absorbed material.

The following information may be useful in complying with various state and federal laws and regulations under various environmental statutes:

**Reportable quantity (RQ), EPA regulation 40 CFR 302 (Cercla Section 102)**

None. Recommend contact with local authorities to determine if there are local requirements.

**Threshold planning quantity (TPQ), EPA regulation 40 CFR 355 (SARA Sections 301-304)**

No TPQ for product or any constituent greater than 1% or 0.1% (carcinogen).

**Toxic chemical release reporting, EPA regulation 40 CFR372 (SARA Section 313)**

Not reportable.

Hazardous chemical reporting, EPA regulation 40 CFR 370 (SARA Sections 311-312)

	Acute	Chronic	Fire	Pressure	Reactive	Not Applicable
EPA Hazard Classification Code:	Hazard	Hazard	Hazard	Hazard	Hazard	
	XXX	XXX	XXX			

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**I. PROTECTION AND PRECAUTIONS**

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**Ventilation**

Use only with ventilation sufficient to prevent exceeding recommended exposure limit or buildup of explosive concentrations of vapor in air. No smoking, flame or other ignition sources.

**Respiratory protection**

Use supplied-air respiratory protection in confined or enclosed spaces, if needed.

**Protective Gloves**

Use chemical resistant gloves, if needed, to avoid prolonged or repeated skin contact.

**Eye Protection**

Use splash goggles or face shield when eye contact may occur.

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### Other Protective Equipment

Use chemical resistant apron or other impervious clothing, if needed, to avoid contaminating regular clothing, which could result in prolonged or repeated skin contact.

### Work Practices/Engineering Controls

Keep containers closed when not in use. Do not store near heat, sparks, flame or strong oxidants. To prevent fire or explosion risk from static accumulation and discharge, effectively ground product transfer system in accordance with the National Fire Protection Association standard for petroleum products.

### In order to prevent fire or explosion hazards, use appropriate equipment.

Information on electrical equipment appropriate for use with this product may be found in the latest edition of the National Electrical Code (NFPA-70). This document is available from the National Fire Protection Association, Batterymarch Park, Quincy, Massachusetts 02269.

### Personal Hygiene

Minimize breathing vapor or mist. Avoid prolonged or repeated contact with skin. Remove contaminated clothing, launder or dry-clean before re-use. Remove contaminated shoes and thoroughly clean and dry before re-use. Cleanse skin thoroughly after contact before breaks and meals and at end of work period. Product is readily removed from skin by waterless hand cleaner followed by washing thoroughly with soap and water. Eye wash fountains and safety showers should be available for emergency.

## J. TRANSPORTATION AND OSHA RELATED LABEL INFORMATION

### Transportation Incident Information

For further information relative to spills resulting from transportation incidents, refer to latest Department of Transportation Emergency Response Guidebook for Hazardous Materials Incidents, DOT P 5800.0

### DOT Identification Number

ISOPROPANOL/3/UN 1219/PGII

### OSHA Required Label Information

In compliance with hazard and right-to-know requirements, the following OSHA Hazard Warnings should be found on a label, bill of lading or invoice accompanying this shipment.

**DANGER!**

**FLAMMABLE**

**NOTE:** Product label will contain additional non-OSHA-related information

The information and recommendations contained herein are, to the best of Savogran knowledge and belief accurate and reliable as of the date issued. Savogran does not warrant or guarantee their accuracy or reliability, and Savogran shall not be liable for any loss or damage arising out of the use thereof.

The information and recommendations are offered for the user's consideration and examination, and it is the user's responsibility to satisfy itself that they are suitable and complete for its particular use. If buyer repackages this product legal council should be consulted to insure proper health, safety and other necessary information is included on the container.

The environmental information included under section H hereof as well as the hazardous materials identification system (HMIS) and National Fire Protection Association (NFPA ratings have been included by Savogran in order to provide additional health and hazard classification information. The ratings recommended are based upon the criteria supplied by the developers of these rating systems, together with Savogran interpretation of the available data.