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## **2-PROPANOL- MATERIAL SAFETY DATA SHEET**

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### **24 Hour EMERGENCY CONTACT**

**U.S- CHEMTREC 1-800-424-9300**

**CANADA- CANUTEC 613-996-6666**

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## **1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**

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### **Matheson Tri-Gas, Inc.**

*The telephone numbers listed below are emergency numbers, please contact your local branch for routine inquiries.*

#### **USA**

959 Route 46 East  
Parsippany, New Jersey  
07054-0624 USA  
**Phone: 973-257-1100**

#### **CANADA**

530 Watson Street  
Whitby, Ontario  
L1N 5R9 Canada  
**Phone: 905-668-3570**

**SUBSTANCE: 2-PROPANOL**

**SYMBOL:** C<sub>3</sub>H<sub>8</sub>O

**TRADE NAMES/SYNONYMS:**

ISOPROPANOL; ETHYL CARBINOL; DIMETHYLCARBINOL; 2-PROPANOL; ISOHOL; SEC-  
PROPYL ALCOHOL; PROPYL ALCOHOL; STCC 4909205; UN 1219; C3H8O; MAT12090;  
RTECS NT8050000

**CHEMICAL FAMILY:** alcohols, aliphatic

**CREATION DATE:** Jan 24 1989

**REVISION DATE:** Mar 16 1999

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**2. COMPOSITION, INFORMATION ON INGREDIENTS**

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**COMPONENT:** ISOPROPYL ALCOHOL

**CAS NUMBER:** 67-63-0

**EC NUMBER (EINECS):** 200-661-7

**EC INDEX NUMBER:** 603-003-00-0

**PERCENTAGE:** 100.0

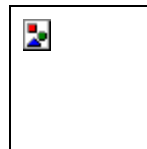
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**3. HAZARDS IDENTIFICATION**

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**NFPA RATINGS (SCALE 0-4):** HEALTH=2 FIRE=3 REACTIVITY=0



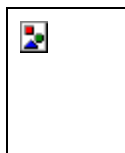
**WHMIS CLASSIFICATION:** B

**EC CLASSIFICATION (ASSIGNED):**

F Highly Flammable

R 11

EC Classification may be inconsistent with independently-researched data.



**EMERGENCY OVERVIEW:**

**Color:** colorless

**Physical Form:** liquid

**Odor:** alcohol odor

**Major Health Hazards:** respiratory tract irritation, eye irritation, central nervous system depression

**Physical Hazards:** Flammable liquid and vapor. Vapor may cause flash fire.

**POTENTIAL HEALTH EFFECTS:**

**INHALATION:**

**Short Term Exposure:** same as effects reported in other routes of exposure, irritation, symptoms of drunkenness

**Long Term Exposure:** no information on significant adverse effects

**SKIN CONTACT:**

**Short Term Exposure:** same as effects reported in short term ingestion, mild irritation, symptoms of drunkenness

**Long Term Exposure:** no information on significant adverse effects

**EYE CONTACT:**

**Short Term Exposure:** irritation, eye damage

**Long Term Exposure:** same as effects reported in short term exposure

**INGESTION:**

**Short Term Exposure:** nausea, stomach pain, irregular heartbeat, headache, symptoms of drunkenness, lung congestion, kidney damage, coma

**Long Term Exposure:** no information on significant adverse effects

**CARCINOGEN STATUS:**

**OSHA:** N

**NTP:** N

**IARC:** N

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**4. FIRST AID MEASURES**

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**INHALATION:**

Remove from exposure immediately. Use a bag valve mask or similar device to perform artificial respiration (rescue breathing) if needed. Get medical attention.

**SKIN CONTACT:**

Remove contaminated clothing, jewelry, and shoes immediately. Wash with soap or mild detergent and large amounts of water until no evidence of chemical remains (at least 15-20 minutes). Get medical attention, if needed.

**EYE CONTACT:**

Wash eyes immediately with large amounts of water or normal saline, occasionally lifting upper and lower lids, until no evidence of chemical remains. Get medical attention immediately.

**INGESTION:**

Contact local poison control center or physician immediately. Never make an unconscious person vomit or drink fluids. When vomiting occurs, keep head lower than hips to help prevent aspiration. If person is unconscious, turn head to side. Get medical attention immediately.

**NOTE TO PHYSICIAN:**

For ingestion, consider gastric lavage and activated charcoal slurry. Consider oxygen.

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## 5. FIRE FIGHTING MEASURES

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### **FIRE AND EXPLOSION HAZARDS:**

Severe fire hazard. The vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive.

### **EXTINGUISHING MEDIA:**

alcohol resistant foam, carbon dioxide, regular dry chemical, water, alcohol resistant foam

Large fires: Use alcohol-resistant foam or flood with fine water spray.

### **FIRE FIGHTING:**

Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Stay away from the ends of tanks. For fires in cargo or storage area: Cool containers with water from unmanned hose holder or monitor nozzles until well after fire is out. If this is impossible then take the following precautions: Keep unnecessary people away, isolate hazard area and deny entry. Let the fire burn. Withdraw immediately in case of rising sound from venting safety device or any discoloration of tanks due to fire. For tank, rail car or tank truck: Evacuation radius: 800 meters (1/2 mile). Do not attempt to extinguish fire unless flow of material can be stopped first. Flood with fine water spray. Do not scatter spilled material with high-pressure water streams. Cool containers with water spray until well after the fire is out. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products. Stay upwind and keep out of low areas. Water may be ineffective.

### **FLASH POINT:**

54 F (12 C) (CC)

### **LOWER FLAMMABLE LIMIT:**

2.0%

### **UPPER FLAMMABLE LIMIT:**

12.7% @ 93.3 C

### **AUTOIGNITION:**

750 F (399 C)

### **FLAMMABILITY CLASS (OSHA):**

IB

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## 6. ACCIDENTAL RELEASE MEASURES

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### **OCCUPATIONAL RELEASE:**

Avoid heat, flames, sparks and other sources of ignition. Remove sources of ignition. Stop leak if possible without personal risk. Reduce vapors with water spray. Small spills: Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Large spills: Dike for later disposal. Keep unnecessary people away, isolate hazard area and deny entry. Stay upwind and keep out of low areas.

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## 7. HANDLING AND STORAGE

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Store and handle in accordance with all current regulations and standards. Subject to storage regulations: U.S. OSHA 29 CFR 1910.106. Grounding and bonding required. Keep separated from incompatible substances.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

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#### **EXPOSURE LIMITS:**

#### **ISOPROPYL ALCOHOL:**

##### **ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROPANOL):**

400 ppm (983 mg/m<sup>3</sup>) OSHA TWA

500 ppm (1230 mg/m<sup>3</sup>) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)

400 ppm (983 mg/m<sup>3</sup>) ACGIH TWA

500 ppm (1230 mg/m<sup>3</sup>) ACGIH STEL

400 ppm (983 mg/m<sup>3</sup>) NIOSH recommended TWA 10 hour(s)

500 ppm (1230 mg/m<sup>3</sup>) NIOSH recommended STEL

**VENTILATION:** Provide local exhaust ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Ensure compliance with applicable exposure limits.

**EYE PROTECTION:** Wear splash resistant safety goggles. Provide an emergency eye wash fountain and quick drench shower in the immediate work area.

**CLOTHING:** Wear appropriate chemical resistant clothing.

**GLOVES:** Wear appropriate chemical resistant gloves.

**RESPIRATOR:** The following respirators and maximum use concentrations are drawn from NIOSH and/or OSHA.

#### **2000 ppm**

Any supplied-air respirator.

Any chemical cartridge respirator with a full facepiece and organic vapor cartridge(s).

Any air-purifying respirator with a full facepiece and an organic vapor canister.

Any powered, air-purifying respirator with organic vapor cartridge(s).

Any self-contained breathing apparatus with a full facepiece.

Any supplied-air respirator with a full facepiece.

#### **Escape -**

Any air-purifying respirator with a full facepiece and an organic vapor canister.

Any appropriate escape-type, self-contained breathing apparatus.

#### **For Unknown Concentrations or Immediately Dangerous to Life or Health -**

Any supplied-air respirator with full facepiece and operated in a pressure-demand or other positive-pressure mode in combination with a separate escape supply.

Any self-contained breathing apparatus with a full facepiece.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

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**PHYSICAL STATE:** liquid

**COLOR:** colorless

**ODOR:** alcohol odor

**MOLECULAR WEIGHT:** 60.10

**MOLECULAR FORMULA:** C-H<sub>3</sub>-C-H-(O-H)-C-H<sub>3</sub>

**BOILING POINT:** 180 F (82 C)

**FREEZING POINT:** -128 F (-89 C)

**VAPOR PRESSURE:** 40 mmHg @ 24 C

**VAPOR DENSITY (air=1):** 2.1

**SPECIFIC GRAVITY (water=1):** 0.7855

**WATER SOLUBILITY:** soluble

**PH:** Not available

**VOLATILITY:** 100%

**ODOR THRESHOLD:** 40-45 ppm

**EVAPORATION RATE:** 2.88 (butyl acetate=1)

**COEFFICIENT OF WATER/OIL DISTRIBUTION:** Not available

**SOLVENT SOLUBILITY:**

**Soluble:** alcohol, ether, chloroform, acetone, benzene

**Insoluble:** salt solutions

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## **10. STABILITY AND REACTIVITY**

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**REACTIVITY:**

Stable at normal temperatures and pressure.

**CONDITIONS TO AVOID:**

Avoid heat, flames, sparks and other sources of ignition. Containers may rupture or explode if exposed to heat.

**INCOMPATIBILITIES:**

acids, metals, oxidizing materials, combustible materials, halogens, peroxides, bases, metal salts

**HAZARDOUS DECOMPOSITION:**

Thermal decomposition products: oxides of carbon

**POLYMERIZATION:**

Will not polymerize.

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## **11. TOXICOLOGICAL INFORMATION**

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**ISOPROPYL ALCOHOL:**

**Irritation Data:**

500 mg skin-rabbit mild; 100 mg eyes-rabbit severe; 10 mg eyes-rabbit moderate; 100 mg/24 hour(s) eyes-rabbit moderate

**Toxicity Data:**

16000 ppm/8 hour(s) inhalation-rat LC50; 12800 mg/kg skin-rabbit LD50; 5045 mg/kg oral-rat LD50

**Carcinogen Status:**

IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; EC: Category 1

**Local Effects:**

Irritant: inhalation, eye

**Acute Toxicity Level:**

Slightly Toxic: inhalation, dermal absorption, ingestion

**Target Organs:**

central nervous system

**Medical Conditions Aggravated By Exposure:**

kidney disorders, liver disorders, respiratory disorders, skin disorders and allergies

**Mutagenic Data:**

Available.

**Reproductive Effects Data:**

Available.

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## 12. ECOLOGICAL INFORMATION

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### ECOTOXICITY DATA:

**Fish Toxicity:**

730 ug/L 96 hour(s) LC50 (Mortality) Brook trout (*Salvelinus fontinalis*)

**Invertebrate Toxicity:**

3142000 ug/L 48 hour(s) EC20 (Biomass) Ciliate Protozoa (*Tetrahymena thermophila*)

**Algal Toxicity:**

2200 ug/L 96 hour(s) EC50 (Growth) Green algae (*Chlorella pyrenoidosa*)

**Fate and Transport:**

**Bioconcentration:**

0.38 ug/L 15 hour(s) BCF (Residue) Red swamp crayfish (*Procambarus clarki*) 10 ug/L

**Environmental Summary:**

Highly toxic to aquatic life.

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## 13. DISPOSAL CONSIDERATIONS

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Subject to disposal regulations: U.S. EPA 40 CFR 262. Hazardous Waste Number(s): D001.  
Dispose in accordance with all applicable regulations.

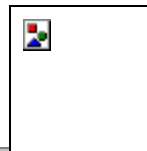
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## 14. TRANSPORT INFORMATION

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**U.S. DOT 49 CFR 172.101. SHIPPING NAME-UN NUMBER; HAZARD CLASS; PACKING GROUP; LABEL:**

Isopropanol-UN1219; 3; II; Flammable liquid



## 15. REGULATORY INFORMATION

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**U.S. REGULATIONS:**

TSCA INVENTORY STATUS: Y

TSCA 12(b) EXPORT NOTIFICATION: Y

**ISOPROPANOL**

**CAS NUMBER:** 67-63-0

SECTION 4

**CERCLA SECTION 103 (40CFR302.4):** N

**SARA SECTION 302 (40CFR355.30):** N

**SARA SECTION 304 (40CFR355.40):** N

**SARA SECTION 313 (40CFR372.65):** Y

**ISOPROPYL ALCOHOL, STRONG ACID PROCESS ONLY**

**SARA HAZARD CATEGORIES, SARA SECTIONS 311/312 (40CFR370.21):**

ACUTE: Y

CHRONIC: N

FIRE: Y

REACTIVE: N

SUDDEN RELEASE: N

**OSHA PROCESS SAFETY (29CFR1910.119):** N

**STATE REGULATIONS:**

California Proposition 65: N

**EUROPEAN REGULATIONS:**

**EC NUMBER (EINECS):** 200-661-7

**EC RISK AND SAFETY PHRASES:**

R 11	Highly flammable.
S 2	Keep out of reach of children.
S 7	Keep container tightly closed.
S 16	Keep away from sources of ignition - No smoking.

## 16. OTHER INFORMATION

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