1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATHESON TRI-GAS, INC.
150 Allen Road Suite 302
Basking Ridge, New Jersey 07920
Information: 1-800-416-2505

Emergency Contact:
CHEMTREC 1-800-424-9300
Calls Originating Outside the US:
703-527-3887 (Collect Calls Accepted)

SUBSTANCE: ISOPROPYL ALCOHOL

TRADE NAMES/SYNONYMS:
MTG MSDS 137; ISOPROPANOL; ETHYL CARBINOL; DIMETHYLCARBINOL; 2-PROPA NOL; 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: Dec 11 2008

2. COMPOSITION, INFORMATION ON INGREDIENTS

COMPONENT: ISOPROPYL ALCOHOL
CAS NUMBER: 67-63-0
PERCENTAGE: 100.0

3. HAZARDS IDENTIFICATION

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

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:** irritation, difficulty breathing, headache, drowsiness, dizziness, loss of coordination  
**LONG TERM EXPOSURE:** no information on significant adverse effects  
**SKIN CONTACT:**  
**SHORT TERM EXPOSURE:** irritation, headache, drowsiness, dizziness, loss of coordination  
**LONG TERM EXPOSURE:** irritation  
**EYE CONTACT:**  
**SHORT TERM EXPOSURE:** irritation (possibly severe), eye damage  
**LONG TERM EXPOSURE:** irritation  
**INGESTION:**  
**SHORT TERM EXPOSURE:** changes in blood pressure, nausea, vomiting, stomach pain, irregular heartbeat, headache, drowsiness, dizziness, disorientation, hallucinations, loss of coordination, internal bleeding, coma  
**LONG TERM EXPOSURE:** no information on significant adverse effects

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**4. FIRST AID MEASURES**

**INHALATION:** If adverse effects occur, remove to uncontaminated area. Give artificial respiration if not breathing. Get immediate medical attention.

**SKIN CONTACT:** Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention, if needed. Thoroughly clean and dry contaminated clothing and shoes before reuse.

**EYE CONTACT:** Flush eyes with plenty of water for at least 15 minutes. Then get immediate medical attention.

**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**

**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): 1B

6. ACCIDENTAL RELEASE MEASURES

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.

7. HANDLING AND STORAGE


8. EXPOSURE CONTROLS, PERSONAL PROTECTION

EXPOSURE LIMITS:
ISOPROPYL ALCOHOL:
ISOPROPYL ALCOHOL (ISOPROPANOL; 2-PROpanol):
400 ppm (980 mg/m3) OSHA TWA
500 ppm (1230 mg/m3) OSHA STEL (vacated by 58 FR 35338, June 30, 1993)
200 ppm ACGIH TWA
400 ppm ACGIH STEL
400 ppm (980 mg/m3) NIOSH recommended TWA 10 hour(s)
500 ppm (1225 mg/m3) 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 operated in a continuous-flow mode.
Any air-purifying respirator with a full facepiece and an organic vapor canister.
Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted 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.
Emergency or planned entry into unknown concentrations or IDLH conditions -
Any self-contained breathing apparatus that has a full facepiece and is operated in a pressure-demand or other positive-pressure mode.
Any supplied-air respirator with a full facepiece that is operated in a pressure-demand or other positive-pressure mode in combination with an auxiliary self-contained breathing apparatus operated in pressure-demand or other positive-pressure mode.

Escape -
Any air-purifying full-facepiece respirator (gas mask) with a chin-style, front-mounted or back-mounted organic vapor canister.
Any appropriate escape-type, self-contained breathing apparatus.

9. PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE: liquid
COLOR: colorless
ODOR: alcohol odor
MOLECULAR WEIGHT: 60.10
MOLECULAR FORMULA: C-H3-C-H-(O-H)-C-H3
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)  
VISCOSITY: 2.1 cP @ 25 C  
COEFFICIENT OF WATER/OIL DISTRIBUTION: Not available  
SOLVENT SOLUBILITY: 
Soluble: alcohol, ether, chloroform, acetone, benzene  
Insoluble: salt solutions  

10. STABILITY AND REACTIVITY  

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.  

11. TOXICOLOGICAL INFORMATION  

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; 5000 mg/kg oral-rat LD50  
CARCINOGEN STATUS: IARC: Human Inadequate Evidence, Animal Inadequate Evidence, Group 3; ACGIH: A4 -Not Classifiable as a Human Carcinogen  
LOCAL EFFECTS: Irritant: inhalation, eye  
ACUTE TOXICITY LEVEL: Moderately Toxic: inhalation, ingestion Slightly Toxic: dermal absorption  
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.
12. ECOLOGICAL INFORMATION

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.

13. DISPOSAL CONSIDERATIONS

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

14. TRANSPORT INFORMATION

U.S. DOT 49 CFR 172.101:
PROPER SHIPPING NAME: Isopropanol
ID NUMBER: UN1219
HAZARD CLASS OR DIVISION: 3
PACKING GROUP: II
LABELING REQUIREMENTS: 3

CANADIAN TRANSPORTATION OF DANGEROUS GOODS:
SHIPPING NAME: Isopropyl alcohol
UN NUMBER: UN1219
CLASS: 3
PACKING GROUP/CATEGORY: II

15. REGULATORY INFORMATION

U.S. REGULATIONS:
CERCLA SECTION 102a/103 HAZARDOUS Substances (40 CFR 302.4): Not regulated.


SARA TITLE III SARA SECTIONS 311/312 HAZARDOUS CATEGORIES (40 CFR 370 Subparts B and C):
ACUTE: Yes
CHRONIC: No
FIRE: Yes
REACTIVE: No
SUDDEN RELEASE: No

SARA TITLE III SECTION 313 (40 CFR 372.65):
ISOPROPYL ALCOHOL, STRONG ACID PROCESS ONLY


STATE REGULATIONS:
California Proposition 65: Not regulated.

CANADIAN REGULATIONS:
WHMIS CLASSIFICATION: B

NATIONAL INVENTORY STATUS:
U.S. INVENTORY (TSCA): Listed on inventory.

TSCA 12(b) EXPORT NOTIFICATION: Not listed.

CANADA INVENTORY (DSL/NDSL): Not determined.

16. OTHER INFORMATION

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