

1. Product and Supplier Information

Product Name(s): Traceable® Conductivity Standard **Date:** February 2008
Product Number(s): 4065, 4175, 4270, 4271, 4274, 4565, 4570, 4574
 Cole-Parmer Number(s) 00652-24/00652-62/00652-22/00652-60/00652-20/00652-44/00652-442/00652-40

Supplier: Control Company **Phone:** 281-482-1714
 Drawer 58307 **Fax:** 281-482-9448
 Houston, TX 77258 **email:** sales@control3.com

Product Information: 281-482-1714
Transportation Emergency: 800-424-9300 (Chemtrec)
 International Call 703-527-3887 (collect calls accepted)

2. Composition and Information on Ingredients

CAS #	SARA 313 On? Dm*	Material or Component	%	RQ#	Exposure Limits TWA* STEL* WEEL*
71-23-8	No NA	1-Propanol A3	30	None	200 ppm 400 ppm NA
7447-40-7	No NA	Potassium chloride	<1	None	Not established NA
7732-18-5	No NA	Water	>69	None	Not established NA

All health and safety information given herein refers to 1-propanol.
 No component is listed in "Threshold and Biological Exposure Indices for 2006" from ACGIH except as noted above.
 Components listed in Title III Sec. 313 (EPCRA) are indicated by "Yes" above.
 *TWA= Time Weighted Average; STEL= Short Term Exposure Limit; WEEL= Workplace Employee Exposure Level
 NE= Not Established A4= Not Classifiable as a Human Carcinogen BEI+ Biological Exposure Index exists for this material
 Dm= De minimus A3 = Confirmed Animal carcinogen with Unknown Relevance to Humans.

3. Hazards Identification

OSHA Hazard Classification: Has a 96°F Flash Point but does not support combustion.
 Ref: 49 CFR 173.120(a)(3) for DOT exemption from "Flammable Liquid" classification

Routes of Entry: Skin, eyes, Inhalation, ingestion

Chemical Interactions: Avoid contact with all oxidizing agents, acids, acid chlorides, acid anhydrides, halogens, aluminum and aluminum alloys.

Medical Conditions Aggravated: No information.

Human Threshold Response Data

Odor Threshold: Not established **Irritation Threshold:** Not established

Hazard Category Classifications and Ratings

Hazard Categories:	Health	Fire	Pressure	Reactivity	Reference
Immediate	Yes	Yes	No	No	OSHA 29 CFR 1910.1200 and
Delayed	No	No	No	No	SARA 302/311/312/313.
HMIS Hazard Ratings: Health 1 Fire 2 Instability 0 Other B (Goggles, gloves)					
NFPA 704 Hazard Ratings: Health 1 Flammability 2 Reactivity 0 Special NA					
Hazard Ratings: Least: 0 Slight: 1 Moderate: 2 High: 3 Extreme: 4					

Notice: HMIS and NFPA ratings involve the subjective evaluation of the hazardous aspects of individual components, and can differ between preparers. They are intended and useful only as a rapid, general identification of the approximate magnitude of the specific hazards ratec

Immediate (Acute) Health Effects

Inhalation Toxicity: Harmful if inhaled or swallowed.
Inhalation Irritation: High concentrations or prolonged exposure can cause headaches, dizziness and nausea .
Skin Contact: Skin contact may cause irritation from dehydration and de-fatting of the skin.
Skin Absorption: No immediate responses.
Eye Contact: Liquid and vapor cause eye irritation, tearing and a burning sensation.
Ingestion Irritation: Irritating. **Ingestion Toxicity:** Almost non toxic. See Sec. 11.
Acute Target Organ Toxicity: Kidneys, liver, central nervous system.

Prolonged (Chronic) Health Effects

Carcinogenicity: Rated A3 = Confirmed Animal carcinogen with Unknown Relevance to Humans.
Reproductive and Developmental Toxicity: Mutagenic effects were noted in animal studies.
Sensitization: None known.
Inhalation: Prolonged or repeated exposure may cause more severe irritation. May cause pulmonary edema (fluid build-up in lungs). See also Inhalation entry above.
Skin Contact: Prolonged or repeated skin exposure may cause dermatitis.
Skin Absorption: Chronic exposure may cause liver damage.
Ingestion: Chronic ingestion unlikely. See Acute entry above. Can lead to liver damage.
General : Prolonged or repeated exposure may cause all acute toxic symptoms described above.
Chronic Target Organ Toxicity: Liver
Supplemental Health Hazard Information No additional health information available.

Material Safety Data Sheet

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4. First Aid

Inhalation:

Remove individual to fresh air. If not breathing, give artificial respiration or oxygen as appropriate. Seek medical attention at once.

Skin Contact:

Flush skin with water for 15 minutes and remove contaminated clothing. Wash shoes and clothing before reuse.

Eyes:

Immediately flush eyes with plenty of water for at least 15 minutes while holding eyelids apart.

Ingestion:

Immediately drink water to dilute. Induce vomiting. Consult a physician immediately.
Never give anything by mouth to an unconscious person.

5. Fire Fighting Measures

Flammability Summary (OSHA):

Flammable. Note: Qualifies for DOT exemption based on 49CFR 173.120(a)(3).

Flammable Properties:

Flash Point: 96F

Autoignition Temperature: ND

Upper Flammable/Explosive Limit, % in ε 13.5 for 1-propanol

Lower Flammable/Explosive Limit, % in ε 2.1 for 1-propanol.

Fire/Explosion Hazards Vapor can travel distances to ignition sources and flash back.

Hot organic chemical vapors or mists are susceptible to sudden spontaneous combustion when mixed with air. Ignition may occur at temperatures below published autoignition or ignition temperatures. Ignition temperatures decrease with increasing vapor volume and vapor/air contact time and are influenced by pressure changes. Ignition may occur at typical elevated temperature process conditions, especially in processes operating under vacuum if subjected to the sudden ingress of air, or with sudden escape of hot vapors into outside air.

Extinguishing Media:

Does not support combustion. Use equipment appropriate to the main cause of the fire.
Do not allow contaminated water to enter sewers or waterways.

Fire Fighting Instructions:

Does not support combustion. Use equipment appropriate to the main cause of the fire.
Use water to cool containers.

Hazardous Combustion Products:

Oxides of carbon.

6. Accidental Release Measures

Personal Protection for Emergency Situations:

Evacuate the area of all unnecessary personnel. Eliminate any ignition sources.
Contain the release and eliminate its source if this can be done safely.

Spill Mitigation Procedures

Air Release:

Hazardous concentrations in air may be found in local spill area and immediately downwind. Vapors may be suppressed by the use of water fog. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste. Do not flush to sewer! US regulations (CERCLA) require reporting spills and releases to soil, water and air in excess of stipulated quantities. US Coast Guard National Response Center is 800-424-8802.

Water Release:

This material is soluble in water. Contain all liquid for treatment and/or disposal as a (potential) hazardous waste. Notify all downstream users of possible contamination.

Land Release:

Create a dike or trench to contain materials. Absorb spill with inert material (e.g., dry sand, clay, earth or commercial absorbent), then place in a chemical waste container.
Contain all contaminated water for disposal and/or treatment.

Additional Spill Information:

Stop source of spill as soon as possible and notify appropriate personnel. Utilize emergency response personal protection equipment prior to the start of any response. Evacuate all non-essential personnel.

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7. Handling and Storage

Handling: Use with adequate ventilation. Vent containers before opening wide.
 Do not take internally. Avoid contact with skin, eyes and clothing. Upon contact with skin or eyes, wash with water. Avoid breathing vapor, mist or gas.
 Retained residue may make empty containers hazardous. USE CAUTION!

Storage
 Keep container closed when not in use. Store in a cool area away from ignition sources and oxidizers.

Shelf Life Limitations:
 See label or certificate of analysis for shelf life if applicable.

Incompatible Materials for Storage:
 Refer to Section 10, "Incompatible Materials."

8. Exposure Controls and Personal Protection

Ventilation:
 Local exhaust ventilation or other engineering controls are normally preferred when handling or using this product. Otherwise, use general exhaust ventilation if that is sufficient for general worker safety and comfort. Explosion proof motors and fans are required. A NIOSH/OSHA approved air supplied respirator is advised in the absence of adequate environmental control.

Protective Equipment for Routine Use of Product

Respiratory Protection:
 See previous paragraph. Material should be handled or transferred in an approved fume hood or with adequate ventilation.

Respirator Type(s):
 Air purifying respirators should not be used in oxygen deficient or IDLH atmospheres or if exposure concentrations exceed ten (10) times the published limit.

Skin: Wear impervious gloves (butyl rubber, Viton, e.g.) to avoid skin contact. Follow good industrial hygiene practices.

Eyes: Use chemical safety glasses with side shields, safety goggles and/or a full face shield where splashing is possible

Protective Clothing Type: Impervious

Other: A safety shower and eye bath should be readily available.

Exposure Limit Data : See Section 2

Chemical Name: NIOSH Level Immediately Dangerous to Life or Health:
 No data on product.

9. Physical Data

Physical State: Liquid
Color: Colorless
Odor: Mild alcohol odor

Molecular Weight: 60.10 for 1-propanol @ 30% in water solution.
pH (@ 25 Deg. C): Not determined
Octanol/Water Coeff: No data

Solubility in Water: 100%
Bulk Density: Not applicable
Specific Gravity: 0.95

Vapor Density (Air = 1): Not determined
Vapor Pressure: (@ 20 Deg. C): Not determined
Evaporation Rate (Butyl acetate =1NA)

Volatiles % by vol.: 100
Boiling Point: Not determined
Freezing Point: Not determined

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10. Stability and Reactivity

Stability and Reactivity Summary:

Stable under normal conditions.

Reactive Properties:

- Sensitivity to mechanical shock: None
- Hazardous Polymerization: Will not occur
- Conditions to Avoid: High temperatures, exposure to heat.
- Chemical Incompatibility: see Sec. 3.
- Incompatible materials: May attack some rubbers and plastics.
- Hazardous Decomposition Products: CO, CO2
- Decomposition Temperature: No data
- Product May Be Unstable At Temperatures Above: No data

11. Toxicological Information

Component Animal Toxicology for 1-propanol

- Oral LD50 mg/kg value: 6800 (mus); 1870 (rat); 2825 (rbt)
- Dermal LD50 mg/kg value: 4050 (rbt)
- Inhalation LC50 ppm value: 48,000 mg/m3 (mus)
- Product Animal Toxicity: See above

- Skin Irritation: This material is expected to be moderately irritating.
- Eye Irritation: This material is expected to be moderately irritating.
- Reproductive and Developmental Toxicity: Has been found in animal studies.
- Component Data All data refer to 1-propanol.
- Mutagenicity: Has been found in animal studies.
- Carcinogenicity: Rated A3 = Confirmed Animal carcinogen with Unknown Relevance to Humans.

12. Ecological Information

Ecological Toxicity Values:

- Dangerous to aquatic life in high concentrations.
- Environmental fate: No potential for food chain concentration.
- Environmental Toxicity: No data.

13. Disposal Considerations

No data provided.

14. Transportation Information

No data provided.

15. Regulatory Information

No data provided.

16. Additional Information

THE PURPOSE OF THIS MSDS IS TO PROVIDE SAFE HANDLING INFORMATION FOR USERS OF THE PRODUCT. IT IS NOT INTENDED TO, NOR DOES IT, PROVIDE COMPLETE OR EXTENSIVE TRANSPORTATION, DISPOSAL, REGULATORY OR TOXICOLOGICAL DATA ON THE PRODUCT OR ITS COMPONENTS. USERS WHO REQUIRE THIS INFORMATION ARE REFERRED TO RELEVANT LOCAL, STATE AND FEDERAL REGULATIONS FOR THE INGREDIENTS OF INTEREST.

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THE POSSESSOR OF THIS MATERIAL HAS THE RESPONSIBILITY TO INSURE THAT IT IS USED, HANDLED, STORED, TRANSPORTED AND DISPOSED OF IN COMPLIANCE WITH ALL RELEVANT LOCAL, STATE AND FEDERAL REGULATIONS
 MSDS data source: Alfa-Aesar 7/03/2001