

1. Identification

Product identifier	Long Range Indicator
Product code	R-1003U
Recommended use	Use as directed by manufacturer for purposes directly related to water testing.
Recommended restrictions	None known

Manufacturer/Importer/Supplier/Distributor information

Manufacturer

Company name	Taylor Technologies, Inc.
Address	31 Loveton Circle Sparks, MD 21152 United States
Telephone	(410) 472-4340 Monday–Friday, 8:00 a.m.–4:30 p.m.
Website	www.taylortechnologies.com
E-mail	Not available
Emergency phone number	(800) 837-8548

2. Hazard(s) identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Eye damage/irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
	Specific target organ toxicity, single exposure	Category 3 respiratory tract irritation
Environmental hazards	Not currently regulated by OSHA; refer to section 12 of the SDS for additional information.	

Label elements



Signal word	Danger
Hazard statement	Highly flammable liquid and vapor. Causes serious eye irritation. May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention	Keep away from heat/sparks/open flames.-No smoking. Keep container tightly closed. Ground or bond container and receiving equipment. Use explosion-proof electrical/ventilating equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Wear protective gloves/protective clothing/eye protection/face protection. Wash skin thoroughly after handling. Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area.
Response	IF ON SKIN (OR HAIR): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a physician or poison control center if you feel unwell. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. IF EYE IRRITATION PERSISTS: Get medical advice/attention. IN CASE OF FIRE: Use alcohol-resistant foam, carbon dioxide, dry chemical, water fog, or water spray to extinguish.

Storage	Store in a well-ventilated place. Keep tightly capped. Store out of direct sunlight between
----------------	---

36°F-85°F.Store locked up.

Disposal

Dispose of contents/container in accordance with local/regional/national/international regulations.

Hazard(s) not otherwise classified None

Supplemental information None

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Deionized water	Dihydrogen oxide	7732-18-5	20–30
Isopropanol	Dimethyl carbinol; 2-Propanol; Isopropyl alcohol	67-63-0	70–80
Other components below reportable levels			0.01–0.1

4. First-aid measures

Inhalation

Move to fresh air. Give oxygen or artificial respiration if needed. Get medical attention immediately.

Skin contact

Immediately flush skin with running water for at least 20 minutes. Immediately take off all contaminated clothing. Get medical attention if you feel unwell. Wash contaminated clothing before reuse.

Eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. Remove contact lenses if present and easy to do. Continue rinsing. Call a physician or poison control center immediately.

Ingestion

Call a physician or poison control center immediately. Rinse mouth. Never give anything by mouth to a person who is unconscious or is having convulsions. Do NOT induce vomiting unless directed by physician. If vomiting occurs, keep head low so that stomach content does not get into the lungs.

Most important symptoms/effects, acute and delayed

Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin.

Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. May cause drowsiness or dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness, and other central nervous system problems.

Ingestion may cause gastrointestinal irritation, nausea, vomiting, diarrhea, as well as depression of the central nervous system.

Indication of immediate medical attention and special treatment needed

Provide general supportive measures and treat symptomatically.

This product is a CNS depressant.

General information

Ensure medical personnel are aware of the material(s) involved and take precautions to protect themselves.

5. Firefighting measures

Suitable extinguishing media

Alcohol-resistant foam. Carbon dioxide. Dry chemical powder. Water fog.

Unsuitable extinguishing media

Do not use water jet as an extinguisher, as this will spread the fire.

Specific hazards arising from the chemical

Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can be electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential static discharge, use proper bonding and grounding procedures. During fire, gases hazardous to health may be formed.

Special protective equipment and precautions for firefighters

Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Firefighting equipment/instructions

Firefighters should wear full protective gear. Evacuate the area promptly. Fight fire from upwind to avoid exposure to combustion products. Cool containers/tanks with water spray. Do not get water inside container. Move containers from fire area if it can be done without risk. Prevent fire-extinguishing water from contaminating surface water or the ground water system.

Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Flammable liquid and vapor. This material may be ignited by heat, sparks, flames, or other sources of ignition (e.g., static electricity, pilot lights, or mechanical/electrical equipment). Vapors are heavier than air and may spread along floors. Vapors may travel considerable distance to a source of ignition and flash back.
Hazardous combustion products	Carbon oxides. Other irritating fumes and smoke.

6. Accidental release measures

Personal precautions, protective equipment, and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Keep out of low areas. Wear appropriate protective equipment and clothing during cleanup. Do not breathe mist or vapor. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ensure adequate ventilation. Local authorities should be advised if significant spillages cannot be contained. For personal protective equipment, refer to section 8 of the SDS.
Methods and materials for containment and cleaning up	<p>Ventilate the contaminated area. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools.</p> <p>Large Spills: Dike the spilled material where this is possible. Stop leak if it can be done without risk. Absorb spillage to prevent material damage. Absorb in vermiculite, dry sand or earth, and place into containers. Prevent entry into waterways, sewer, basements, or confined areas. Following product recovery, flush area with water.</p> <p>Small Spills: Absorb spillage with noncombustible, absorbent material. Clean surface thoroughly to remove residual contamination.</p> <p>Never return spills to original containers for reuse. For waste disposal, refer to section 13 of the SDS. Contaminated absorbent material may pose the same hazards as the spilled product.</p> <p>In the event of a spill or accidental release, notify relevant authorities in accordance with all applicable regulations.</p>
Environmental precautions	Avoid discharge into drains, watercourses, or onto the ground.

7. Handling and storage

Precautions for safe handling	Vapors may form explosive mixtures with air. Keep away from sources of ignition. NO SMOKING. Do not handle, store, or open near an open flame, sources of heat or sources of ignition. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Do not breathe mist or vapor. Do not get in eyes, on skin, or on clothing. Do not taste or swallow. Provide adequate ventilation. Wear appropriate personal protective equipment. For personal protective equipment, refer to section 8 of the SDS. Keep away from incompatibles. Observe good industrial hygiene practices. Label containers appropriately.
Conditions for safe storage, including any incompatibilities	Store locked up. Store in a cool, dry place out of direct sunlight. Store in original tightly closed container. Store in a well-ventilated place. Store away from incompatible materials (refer to section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

U.S. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)

Components	Type	Value	Form
Isopropanol (CAS 67-63-0)	PEL	980 mg/m ³	Not applicable
		400 ppm	Not applicable

U.S. ACGIH Threshold Limit Values

Components	Type	Value	Form
Isopropanol (CAS 67-63-0)	STEL	400 ppm	Not applicable
	TWA	200 ppm	Not applicable

U.S. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value	Form
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m ³	Not applicable
		500 ppm	Not applicable
	TWA	980 mg/m ³	Not applicable
		400 ppm	Not applicable

Biological limit values

U.S. ACGIH Biological Exposure Indices

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/L	Acetone	Urine	Not available
Appropriate engineering controls	Good general ventilation (typically 10 air changes per hour) should be used. Ventilation rates should be matched to conditions. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. If exposure limits have not been established, maintain airborne levels to an acceptable level. . Eyewash facilities and emergency shower must be available when handling this product.			
Individual protection measures, such as personal protective equipment				
Eye/face protection	Wear safety glasses with side shields (or goggles) and a face shield. Provide an emergency eyewash fountain and quick-drench shower in the immediate work area.			
Skin protection				
Hand protection	Wear appropriate chemical-resistant gloves. Advice should be sought from glove suppliers.			
Other	Wear appropriate chemical-resistant clothing.			
Respiratory protection	In case of insufficient ventilation, wear suitable respiratory equipment. Use a NIOSH approved respirator if there is a risk of exposure to dust/fumes at levels exceeding the exposure limits. Advice should be sought from respiratory protection suppliers.			
Thermal hazards	When necessary, wear appropriate thermal protective clothing.			
General hygiene considerations	Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking and/or smoking. Routinely wash work clothing and protective equipment to remove contamination.			

9. Physical and chemical properties

Appearance

Physical state	Liquid
Form	Liquid
Color	Dark green
Odor	Alcohol
Odor threshold	Odorless
pH	Not available
Melting point/freezing point	Not available
Initial boiling point and boiling range	190°F (87.8°C)
Flash point	66°F (18.9°C) Open cup
Evaporation rate	Not available
Flammability (solid, gas)	Flammable
Upper/lower flammability or explosive limits	
Flammability limit, lower (%)	Not available
Flammability limit, upper (%)	Not available
Explosive limit, lower (%)	3.3%
Explosive limit, upper (%)	18.9%
Vapor pressure	33 mm Hg
Vapor density	2
Relative density	0.97 g/cm ³
Solubility(ies)	
Solubility (water)	Soluble in all proportions

Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	Not available
Decomposition temperature	Not available
Viscosity	Not available
Other information	
Explosive properties	Not applicable
Oxidizing properties	Not applicable
Percent volatile	99%
Specific gravity	0.97

10. Stability and reactivity

Reactivity	This product is stable and nonreactive under normal conditions of use, storage, and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	No dangerous reaction known under conditions of normal use
Conditions to avoid	Heat, sparks, open flames, and other ignition sources. Temperatures exceeding the flash point. Direct sunlight. Contact with incompatible materials. Do not use in areas without adequate ventilation.
Incompatible materials	Combustible materials. Reducing agents.
Hazardous decomposition products	None known. For hazardous combustion products, refer to section 5 of the SDS.

11. Toxicological information

Information on likely routes of exposure

Inhalation	May cause respiratory irritation. May cause drowsiness or dizziness.
Skin contact	May cause slight or mild transient irritation
Eye contact	Causes serious eye irritation
Ingestion	May cause irritation, nausea, vomiting, and diarrhea
Most important symptoms/effects, acute and delayed	<p>Direct skin contact may cause slight or mild transient irritation. Symptoms may include redness, edema, drying, and cracking of the skin.</p> <p>Direct eye contact may cause slight or mild transient irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.</p> <p>Inhalation of mists can cause respiratory irritation. Symptoms may include coughing and breathing difficulties. May cause drowsiness or dizziness. Symptoms may include pain, headache, nausea, vomiting, dizziness, drowsiness, and other central nervous system problems.</p> <p>Ingestion may cause gastrointestinal irritation, nausea, vomiting, diarrhea, as well as depression of the central nervous system.</p>
Acute toxicity	This product is not classified as an acute toxicity hazard. See below for individual ingredient acute toxicity data.

Components	Species	Test Results
Isopropanol (CAS 67-63-0)		
Acute		
Dermal		
LD ₅₀	Rabbit	12890 mg/kg
Inhalation		
LC ₅₀	Rat	17000 ppm, 4 hours (vapor)
Oral		
LD ₅₀	Rat	4720 mg/kg
Deionized water (CAS 7732-18-5)		
Acute		
Dermal		
LD ₅₀	Rabbit	Not available

<i>Inhalation</i>		
LC ₅₀	Rat	Not available
<i>Oral</i>		
LD ₅₀	Rat	>89840 mg/kg
Skin corrosion/irritation	May cause slight or mild transient irritation	
Serious eye damage/eye irritation	Causes serious eye irritation	
Respiratory sensitization	Not expected to be a respiratory sensitizer	
Skin sensitization	Not expected to be a skin sensitizer	
Germ cell mutagenicity	Not expected to be mutagenic	
Carcinogenicity	This product is not considered to be a carcinogen by IARC, NTP, OSHA, or U.S. ACGIH.	
Reproductive toxicity	This product is not expected to cause reproductive or developmental effects.	
Specific target organ toxicity, single exposure	May cause drowsiness or dizziness. May cause respiratory irritation.	
Specific target organ toxicity, repeated exposure	Not classified as a specific target organ toxicity-repeated exposure	
Aspiration toxicity	Not expected to be an aspiration hazard	
Chronic effects	Frequent or prolonged contact may dry the skin, leading to discomfort and dermatitis. Frequent or prolonged inhalation of fumes or vapors may cause chronic lung conditions such as bronchitis. Frequent or prolonged overexposure may affect the kidneys.	

12. Ecological information

Ecotoxicity	This product is not classified as environmentally hazardous; however, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.	
--------------------	---	--

Components	Species	Test Results
Isopropanol (CAS 67-63-0) – Aquatic		
Acute		
Crustacea		
EC ₅₀	Water flea (<i>Daphnia magna</i>)	1400 mg/L, 48 hours
LC ₅₀	Fathead minnow (<i>Pimephales promelas</i>)	9640 mg/L, 96 hours
Chronic		
Crustacea		
NOEC	Water flea (<i>Daphnia magna</i>)	30 mg/L, 21 days
Persistence and degradability	Not available	
Bioaccumulative potential		
Partition coefficient n-octanol / water (log K _{ow})		
Isopropanol (CAS 67-63-0)	0.05	
Bioconcentration factor (BCF)		
Isopropanol (CAS 67-63-0)	1	
Mobility in soil	Not available	
Other adverse effects	No other adverse environmental effects (e.g., ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.	

13. Disposal considerations

Disposal instructions	Collect and reclaim or dispose of in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose of in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion with the user, the producer, and the waste disposal company.
Waste from residues/unused products	Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (refer to Disposal instructions).

Contaminated packaging

Empty containers should be taken to an approved waste-handling site for recycling or disposal. Since emptied containers may retain product residue, follow label warnings even after container is emptied.

14. Transportation information**DOT**

UN number	UN1219
UN proper shipping name	Isopropanol solution
Transport hazard class(es)	
Class	3
Subsidiary risk	Not listed
Label(s)	3
Packing group	II
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Special provisions	IB2, T4, TP1
Packaging exceptions	150
Packaging, non-bulk	202
Packaging, bulk	242

IATA

UN number	UN1219
UN proper shipping name	Isopropanol solution
Transport hazard class(es)	
Class	3
Subsidiary risk	Not listed
Packing group	II
Environmental hazards	No
ERG code	3L
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.
Other information	
Passenger and cargo aircraft	Allowed
Cargo aircraft only	Allowed

IMDG

UN number	UN1219
UN proper shipping name	Isopropanol solution
Transport hazard class(es)	
Class	3
Subsidiary risk	Not listed
Packing group	II
Environmental hazards	
Marine pollutant	No
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS, and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This substance/mixture is not intended to be transported in bulk.

DOT



15. Regulatory information

U.S. federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory list.

TSCA Section 12(b) Export Notification (40 CFR 707, Subpt. D)

Not regulated

CERCLA Hazardous Substance (40 CFR 302.4)

Isopropanol (CAS 67-63-0)

SARA 304 Emergency Release Notification

Not regulated

OSHA Specifically Regulated Substances (29 CFR 1910.1001-1096)

Not regulated

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories

Immediate hazard – yes

Delayed hazard – no

Fire hazard – yes

Pressure hazard – no

Reactivity hazard – no

SARA 302 Extremely Hazardous Substance

Not regulated

SARA 311/312 Hazardous Chemical

Not regulated

SARA 313 (TRI reporting)

Chemical name	CAS number	% by weight
Isopropanol	67-63-0	70–80

Other federal regulations

Clean Air Act (CAA) Section 112 Hazardous Air Pollutants (HAPs)

Not regulated

Clean Air Act (CAA) Section 112(r) Accidental Release Prevention (40 CFR 68.130)

Not regulated

Safe Drinking Water Act (SDWA)

Not regulated

U.S. state regulations

California Controlled Substances. CA Department of Justice (California Health and Safety Code Section 11100)

Not regulated

Massachusetts Right-to-Know Act

Isopropanol (CAS 67-63-0)

New Jersey Worker and Community Right-to-Know Act

Isopropanol (CAS 67-63-0)

Pennsylvania Worker and Community Right-to-Know Act

Isopropanol (CAS 67-63-0)

Rhode Island Right-to-Know Act

Isopropanol (CAS 67-63-0)

California Proposition 65

California Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65): This material is not known to contain any chemicals currently listed as carcinogens or reproductive toxins.

International inventories

Country(ies) or region	Inventory name	On inventory (yes/no)*
Australia	Australian Inventory of Chemical Substances (AICS)	yes
Canada	Domestic Substances List (DSL)	yes
Canada	Non-Domestic Substances List (NDSL)	no
China	Inventory of Existing Chemical Substances Produced or Imported in China (IECSC)	yes
Europe	European Inventory of Existing Commercial Chemical Substances (EINECS)	yes
Europe	European List of Notified Chemical Substances (ELINCS)	no
Japan	Existing and New Chemical Substances (ENCS)	yes
Korea	Existing Chemicals List (ECL)	yes
New Zealand	New Zealand Inventory of Chemicals (NZIoC)	yes
Philippines	Philippine Inventory of Chemicals and Chemical Substances (PICCS)	yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA)	yes

*A "yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(ies).

A "no" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(ies).

16. Other information, including date of preparation or last revision

List of abbreviations

ACGIH: American Conference of Governmental Industrial Hygienists
AICS: Australian Inventory of Chemical Substances
CAA: Clean Air Act
CAS: Chemical Abstract Services
CERCLA: Comprehensive Environmental Response, Compensation, and Liability Act
CFR: Code of Federal Regulations
CSA: Canadian Standards Association
DEA: Drug Enforcement Agency
DOT: Department of Transportation
DSL: Domestic Substances List
EC: effective concentration
ECL: Existing Chemicals List
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
ENCS: Existing and New Chemical Substances
EPA: Environmental Protection Agency
HAP: hazardous air pollutants
HMIS: Hazardous Materials Identification System
HNOC: hazards not otherwise classified
HPA: Hazardous Products Act
HSDB: Hazardous Substances Data Bank
IARC: International Agency for Research on Cancer
IATA: International Air Transport Association
IBC Code: International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk
ICAO: International Civil Aviation Organization
IECSC: Inventory of Existing Chemical Substances Produced or Imported in China
IMDG: International Maritime Dangerous Goods
IUCID: International Uniform Chemical Information Database
LC: lethal concentration
LD: lethal dose
MARPOL: marine pollution
MSHA: Mine Safety and Health Administration
NDSL: Non-Domestic Substances List
NFPA: National Fire Protection Association
NIOSH: National Institute of Occupational Safety and Health
NOEC: no observable effect concentration
NTP: National Toxicology Program
NZIoC: New Zealand Inventory of Chemicals
OECD: Organisation for Economic Co-operation and Development
OEL: occupational exposure limits
OSHA: Occupational Safety and Health Administration
PEL: permissible exposure limits

PICCS: Philippine Inventory of Chemicals and Chemical Substances
PPE: personal protective equipment
RCRA: Resource Conservation and Recovery
Act RQ: reportable quantity
RTECS: Registry of Toxic Effects of Chemical Substances
RTK: right to know
SARA: Superfund Amendments and Reauthorization Act
SDS: Safety Data Sheet
SDWA: Safe Drinking Water Act
STEL: short-term exposure limit
TLV: threshold limit values
TSCA: Toxic Substances Control Act
TWA: time-weighted average
VOC: volatile organic compounds
WEL: workplace exposure limit

Disclaimer

The information in the Safety Data Sheet is offered for your consideration and guidance for safe handling, use, storage, transportation, disposal, and release of this product and is not considered a warranty or quality specification. Taylor Technologies, Inc., disclaims all expressed or implied warranties and assumes no responsibility for the accuracy or completeness of the data contained herein. The data in this SDS does not apply to use with any other product or in any other process.

License granted to make unlimited paper copies for internal use only. This Safety Data Sheet may not be changed, or altered, in any way without the expressed knowledge and permission of Taylor Technologies, Inc. The information contained in this sheet is based on lab experience and the most current data available.

Issue date

May 2015

Last revision

August 2015