

#7 4152

# MATERIAL SAFETY DATA SHEET

## Visionaid Rainbow II

### 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

MATERIAL NAME: Visionaid Rainbow II  
COMPANY PRODUCT CODE: LCL211B, LCL211BR, LCL211E, LCL2112, LCL211C, 1LC1760D, LC5000D, LC382D, 1LCT100  
PREPARED BY: ASR CONSULTANTS LTD. approved by H.L. Bouton Co., Inc.  
PHONE NUMBER: 416-481-0389  
DATE PREPARED: January 15, 1997  
LAST REVISION DATE: January 14 2000

MANUFACTURER: H.L. Bouton Co., Inc.  
11 Kendrick Rd.,  
Wareham, Massachusetts,  
U.S.A., 02571  
(800) 426-1881  
SUPPLIER: H.L. Bouton Co., Inc.  
11 Kendrick Rd., Wareham,  
Massachusetts,  
U.S.A., 02571  
(800) 426-1881

INFORMATION PHONE NUMBERS: U.S.A.: (800) 426-1881 (business hours)

EMERGENCY PHONE NUMBERS: U.S.A.: CHEMTREC (800) 424-9300 (24 hours)  
Canada: CANUTEC (613) 996-6666 (24 hours)

SIZE: 3.8 L (128 fl. oz.), 473 ml (16 fl. oz.), 103 ml (3.5 fl. oz.), 59 ml (2 fl. oz.)

PRODUCT USE: Lens cleaner

CHEMICAL NAME: Mixture

CHEMICAL FAMILY: Not applicable

SYNONYMS: Not applicable

FORMULA: Not applicable

CLASSIFICATION: WHMIS Class: B3 - Combustible liquid  
WHMIS Class: D2B - Toxic: Eye/Skin Irritant.

SYMBOLS:  

RISK PHRASES: Caution - Combustible liquid.  
Causes eye and skin irritation.

### 2. COMPOSITION/INFORMATION ON INGREDIENTS

#### HAZARDOUS INGREDIENTS

CHEMICAL NAME: Isopropanol  
COMMON NAME: Rubbing alcohol  
CAS NO.: 67-63-0  
PERCENT: 10%  
FORMULA: C<sub>3</sub>H<sub>8</sub>O  
EXPOSURE LIMITS OF INGREDIENT: TLV: 400 ppm (983 mg/M<sup>3</sup>)  
STEV: 500 ppm (1230 mg/M<sup>3</sup>)  
OSHA PEL 400 ppm (983 mg/m<sup>3</sup>)

LD<sub>50</sub>: 4420 mg/kg (rat-oral)  
12800 mg/kg (rabbit-skin)

LC<sub>50</sub>: LC<sub>10</sub>: 12000 ppm/8 hour (rat-inhalation)

LISTS WHICH INCLUDE CHEMICAL: NIOSH RTECS #NT8050000  
New Jersey Department of Health Hazardous Substances Fact Sheet - Isopropyl Alcohol Substance No. 1076 Rev.

OTHER: Isopropanol is also known as Isopropyl Alcohol, IPA, Sec-Propyl Alcohol, Propan-2-ol, 2-Propanol, 2-Propanol (Isopropanol)  
Isopropanol has a flash point of 12°C (53°F). See Section 5 for flash point of product.

CHEMICAL NAME: Sodium Dodecyl Sulphate

COMMON NAME: SDS

CAS NO.: 151-21-3

PERCENT: 2.5%

FORMULA: C<sub>12</sub>H<sub>25</sub>O<sub>4</sub>S,Na

EXPOSURE LIMITS OF INGREDIENT: Not established

LD<sub>50</sub>: 1288 mg/kg (rat-oral)

LC<sub>50</sub>: Not available

LISTS WHICH INCLUDE CHEMICAL: NIOSH RTECS #WT1050000

OTHER: Not available

**NON-HAZARDOUS INGREDIENTS**

CHEMICAL NAME: Hydrogen Hydroxide

COMMON NAME: Water

CAS NO.: 7732-18-5

PERCENT: 87.5%

FORMULA: H<sub>2</sub>O

EXPOSURE LIMITS OF INGREDIENT: Not established

LD<sub>50</sub>: 55000 mg/kg (rat-oral)

LC<sub>50</sub>: Not applicable

LISTS WHICH INCLUDE CHEMICAL: Not applicable

OTHER: Non-hazardous

CHEMICAL NAME: Pylaklor Turquoise Blue S-400

COMMON NAME:

CAS NO.: Not applicable - mixture

PERCENT: approximately 0.0036% (calculated to 3626 ppm)

FORMULA: Not applicable - mixture

EXPOSURE LIMITS OF INGREDIENT: Unknown for mixture, however Direct Blue 86 has an exposure limit of 1 mg/m<sup>3</sup>. (AS, CU, dust and mists) OSHA-PEL TWA/ACGIH

LD<sub>50</sub>: Greater than 5000 mg/kg oral

LC<sub>50</sub>: Not available

LISTS WHICH INCLUDE CHEMICAL: Not applicable - mixture

OTHER: This is a mixture which contains:

2% Copper cas no. 7440-50-8  
 0.39% Direct Blue 86 (Copper phthalocyanine compound) cas no. 1330-38-7  
 Acid Green 25 cas no. 4403-90-1  
 Sodium Sulfate cas no. 7757-82-6  
 Sodium Chloride cas no. 7647-14-5  
 Sodium Carbonate cas no. 497-19-8  
 This is a controlled product as defined by the Canadian WHMIS, Category D-2-B. This contains Copper Compound and Sodium Carbonate which are listed on the IDL, but exist at concentrations well below reportable concentrations.

### 3 HAZARDS IDENTIFICATION

#### EMERGENCY OVERVIEW

Combustible liquid, may cause eye or skin irritation.

#### POTENTIAL HEALTH EFFECTS

See SECTION 11 TOXICOLOGICAL INFORMATION for background data on the health hazards presented in this subsection.

#### INHALATION

ROUTE OF ENTRY:

Y

Y= YES, N= NO, U= UNKNOWN

SINGLE EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

High levels may cause headache, nausea, dizziness.

REPEATED EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

No longterm effects expected.

LIFETIME EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

No longterm effects expected.

SIGNS AND SYMPTOMS OF  
EXPOSURE:

Headache, nausea, dizziness.

MEDICAL CONDITIONS  
AGGRAVATED BY EXPOSURE:

None expected.

#### INGESTION

ROUTE OF ENTRY:

Y

Y= YES, N= NO, U= UNKNOWN

SINGLE EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

Mildly toxic by ingestion. May cause nausea, headache and vomiting.

REPEATED EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

CNS (Central Nervous System) Depression.

LIFETIME EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

CNS (Central Nervous System) Damage.

SIGNS AND SYMPTOMS OF  
EXPOSURE:

Nausea, headache, vomiting.

MEDICAL CONDITIONS  
AGGRAVATED BY EXPOSURE:

None expected.

#### SKIN CONTACT

ROUTE OF ENTRY:

Y

Y= YES, N= NO, U= UNKNOWN

SINGLE EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

May cause mild irritations, drying out of skin.

REPEATED EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

Prolonged or repeated skin contact may cause drying out of skin, irritations and/or dermatitis.

LIFETIME EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

Prolonged or repeated skin contact may cause drying out of skin, irritations and/or dermatitis.

SIGNS AND SYMPTOMS OF  
EXPOSURE:

Dry skin, Irritation.

MEDICAL CONDITIONS  
AGGRAVATED BY EXPOSURE:

Skin conditions and allergies.

#### SKIN ABSORPTION

ROUTE OF ENTRY:

**N**

Y= YES, N= NO, U= UNKNOWN

SINGLE EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

No effects expected.

REPEATED EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

No effects expected.

LIFETIME EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

No effects expected.

SIGNS AND SYMPTOMS OF  
EXPOSURE:

None expected.

MEDICAL CONDITIONS  
AGGRAVATED BY EXPOSURE:

None expected.

#### EYE CONTACT

ROUTE OF ENTRY:

**Y**

Y= YES, N= NO, U= UNKNOWN

SINGLE EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

May irritate eyes, cause redness and temporary corneal damage.

REPEATED EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

Corneal thickening leading to scarring from repeated eye contact.

LIFETIME EXPOSURE  
SEVERITY, TARGET ORGANS  
AND TYPE OF EFFECT:

Permanent corneal damage from repeated eye contact.

SIGNS AND SYMPTOMS OF  
EXPOSURE:

Irritation, redness.

MEDICAL CONDITIONS  
AGGRAVATED BY EXPOSURE:

None expected.

#### HAZARDS TO THE ENVIRONMENT:

ENVIRONMENTAL HAZARDS  
OVERVIEW:

Solutions of alcohols are toxic to aquatic life at moderate to low concentrations. Detergents such as SDS (Sodium Dodecyl Sulphate) are aesthetic nuisances and may enhance toxicity of other components.

#### 4. FIRST AID MEASURES

FIRST AID FOR INHALATION:

Move to fresh air. If dizziness persists, consult physician.

FIRST AID FOR INGESTION:

If conscious, induce vomiting and drink two glasses of water. Seek medical advice.

FIRST AID FOR SKIN CONTACT:

Wash thoroughly with soap and water.

FIRST AID FOR EYE CONTACT:

Flush with plenty of water for at least fifteen minutes. If irritation persists,

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	consult physician.
FIRST AID EQUIPMENT AND SKILLS REQUIRED ON-SITE:	No special equipment required.
ANTIDOTE:	None.
<b>NOTE TO PHYSICIAN</b>	
DELAYED EFFECTS AND SYMPTOMS DETECTABLE ONLY BY CLINICAL TESTING:	Ingestion of large quantities may cause intoxication followed by severe gastrointestinal pain and upset.
TREATMENT AND DIAGNOSTIC PROCEDURES:	Treat symptomatically.
MEDICAL CONDITIONS AGGRAVATED BY EXPOSURE:	Allergies.
See SECTION 3 HAZARDS IDENTIFICATION, SUBSECTION POTENTIAL HEALTH EFFECTS for more information.	
<b>5. FIRE FIGHTING MEASURES</b>	
<b>FLAMMABLE PROPERTIES</b>	
FLAMMABILITY CLASSIFICATION (29 CFR 1910.1200):	Combustible liquid.
FLASH POINT AND METHOD:	82°C (180°F)
FLAMMABLE LIMITS IN AIR - LOWER:	2.5% (Isopropanol)
FLAMMABLE LIMITS IN AIR - UPPER:	12.0% (Isopropanol)
AUTOFLAMMABILITY AND AUTOIGNITION TEMPERATURE:	<input checked="" type="checkbox"/> Y Y = YES, N = NO, U = UNKNOWN 456°C (852°F) (Isopropanol)
SENSITIVITY TO STATIC DISCHARGE:	<input checked="" type="checkbox"/> Y Y = YES, N = NO, U = UNKNOWN May be sensitive under some conditions.
SENSITIVITY TO IMPACT:	<input type="checkbox"/> N Y = YES, N = NO, U = UNKNOWN Not sensitive.
EXPLOSIVE PROPERTIES:	None
OXIDIZING PROPERTIES:	None
FLAME PROPAGATION OR BURNING RATE:	Not available
HAZARDOUS COMBUSTION PRODUCTS:	Oxides of carbon (CO <sub>x</sub> )
PROPERTIES THAT MAY INITIATE OR CONTRIBUTE TO FIRE INTENSITY:	Aerosol or fine sprays.
POTENTIAL FOR DUST EXPLOSION:	None.
REACTIONS THAT RELEASE FLAMMABLE GASES, VAPORS OR INVISIBLE VAPORS:	None known.
EXPOSURE HAZARDS FROM RESULTING GASES:	No special hazards.
FAST OR INTENSELY BURNING CHARACTERISTICS:	None expected.
NONFLAMMABLE FIRE AND EXPLOSION HAZARDS:	Closed containers exposed to heat may rupture.
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UNUSUAL FIRE AND EXPLOSION HAZARDS:	None known.
<b>EXTINGUISHING MEDIA</b>	
SUITABLE EXTINGUISHING MEDIA:	Alcohol foam, dry chemical, carbon dioxide, water fog.
UNSUITABLE EXTINGUISHING MEDIA:	Non-alcohol resistant foams.
<b>FIRE FIGHTING INSTRUCTIONS</b>	
INSTRUCTIONS TO FIRE FIGHTERS:	Fire-fighters should wear self-contained breathing apparatus when fighting fires.
FIRE FIGHTING PROTECTIVE EQUIPMENT:	Self-contained breathing apparatus. Please note: The minimum protection for all firefighters includes self-contained breathing apparatus (SCBA) and full firefighting turn out gear (Bunker Gear). See SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION, SUBSECTION PERSONAL PROTECTIVE EQUIPMENT (PPE) for more information.
<b>6. ACCIDENTAL RELEASE MEASURES</b>	
CONTAINMENT TECHNIQUE:	Prevent from entering waterways and storm sewers.
CLEAN-UP TECHNIQUE:	Contain spill. Cover spill with inert absorbent (absorbent, vermiculate). Using non-sparking tools, shovel or sweep up into a clean container. Remove from area. Flush spill area with water.
EVACUATION PROCEDURES:	Follow normal Emergency Response Plan (ERP).
SPECIAL INSTRUCTIONS, EQUIPMENT AND OTHER EMERGENCY ADVICE:	Risk of spreading an already existing fire. See SECTION 8 EXPOSURE CONTROLS/PERSONAL PROTECTION subsection PERSONAL PROTECTION EQUIPMENT (PPE) for additional information.
REPORTING REQUIREMENTS ASSOCIATED WITH SPILLS, LEAKS AND RELEASES:	Not available See SECTION 15 REGULATORY INFORMATION for additional information.
<b>7. HANDLING AND STORAGE</b>	
<b>HANDLING</b>	
HANDLING PRACTICES:	Use grounding wires if transferring large quantities. Keep away from oxidizers, heat and other ignition sources. Do not allow to freeze.
HYGIENE RECOMMENDATIONS TO PREVENT CONTINUED EXPOSURE:	Use normal good industrial hygiene practices.
REGULATORY REQUIREMENTS ASSOCIATED WITH SAFE HANDLING:	Not available See SECTION 15 REGULATORY INFORMATION for additional information.
VENTILATION REQUIREMENTS FOR HANDLING:	None required.
MEASURES TO PREVENT AEROSOL AND DUST GENERATION AND FIRE:	Not required.
<b>STORAGE</b>	
CONDITIONS FOR SAFE STORAGE:	Keep away from oxidizers, heat and other ignition sources. Do not store in direct sunlight. Store in cool, dry well-ventilated area. Do not allow to freeze.

VENTILATION REQUIREMENTS FOR STORAGE:	None required.
STORAGE TEMPERATURE RANGE:	Below 40°C (104°F)
STORAGE HUMIDITY RANGE:	Not applicable
QUANTITY LIMITS FOR SAFE STORAGE:	Not applicable
SPECIAL MATERIALS TO BE USED FOR PACKAGING OR CONTAINERS:	Not applicable
<b>8. EXPOSURE CONTROLS/PERSONAL PROTECTION</b>	
<b>ENGINEERING CONTROLS</b>	
RECOMMENDED ENGINEERING MEASURES AND SPECIAL PROCESS CONDITIONS:	No special measures required.
VENTILATION REQUIREMENTS:	General exhaust ventilation is recommended. See SECTION 7 HANDLING AND STORAGE for additional information.
ANTICIPATED HAZARDS OF NORMAL USE:	Combustibility if exposed to ignition sources and skin irritation.
SPECIFIC BIOLOGICAL CONTROL PARAMETERS:	Not applicable
RECOMMENDED MONITORING PROCEDURES:	Keep Isopropanol air concentration below the TLV/TWA.
<b>PERSONAL PROTECTIVE EQUIPMENT (PPE)</b>	
Please note: Since the preparer does not know the local conditions of use and exposure, PPE information is generalized, and is intended only as a guideline. Local conditions may warrant a greater degree of protection.	
PERSONAL PROTECTIVE EQUIPMENT - RESPIRATORY:	<input type="checkbox"/> N Y = YES, N = NO, U = UNKNOWN None required.
PERSONAL PROTECTIVE EQUIPMENT - GLOVES:	<input checked="" type="checkbox"/> Y Y = YES, N = NO, U = UNKNOWN Rubber or plastic gloves.
PERSONAL PROTECTIVE EQUIPMENT - EYES:	<input checked="" type="checkbox"/> Y Y = YES, N = NO, U = UNKNOWN Safety glasses.
PERSONAL PROTECTIVE EQUIPMENT - FOOTWEAR:	<input type="checkbox"/> N Y = YES, N = NO, U = UNKNOWN Normal work apparel should be sufficient.
ADDITIONAL PROTECTIVE CLOTHING OR EQUIPMENT:	<input type="checkbox"/> N Y = YES, N = NO, U = UNKNOWN Normal work apparel should be sufficient.
<b>EXPOSURE GUIDELINES</b>	
EXPOSURE LIMIT FOR PRODUCT:	None specifically for this product "see section 2".
Please note: Calculating exposure limits on mixtures requires professional judgement to determine if the results are appropriate to the specific combination of ingredients. Occasionally certain chemical mixtures contain components that may act upon the same organ system. The combined health effects may be additive. See SECTION 2 COMPOSITION/INFORMATION ON INGREDIENTS for exposure limits of each ingredient if product is a mixture.	
<b>9. PHYSICAL AND CHEMICAL PROPERTIES</b>	
APPEARANCE:	Clear blue solution.
ODOUR:	Slight alcoholic odour.
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ODOUR THRESHOLD:	Not available
PHYSICAL STATE:	Liquid
pH FACTOR:	Not applicable
VAPOUR PRESSURE:	20 mmHg at 20°C (68°F)
VAPOUR DENSITY:	1
BOILING POINT:	93°C (200°F)
MELTING POINT:	- 6°C (21°F)
FREEZING POINT:	- 6°C (21°F)
SOLUBILITY IN WATER:	100%
SOLUBILITY IN OTHER SOLVENTS (SPECIFY SOLVENT):	Not available
SPECIFIC GRAVITY (RELATIVE DENSITY):	0.98
HEAT VALUE:	Not available
PARTICLE SIZE:	Not applicable
VOLATILE ORGANIC COMPOUNDS (VOC) CONTENT:	10%
SOFTENING POINT:	Not applicable
EVAPORATION RATE:	0.99
MISCIBILITY:	100%
VISCOSITY:	As for water.
CONDUCTIVITY:	Slightly higher than water.
BULK DENSITY:	Not applicable
PERCENT VOLATILE BY VOLUME:	10%
PARTITION CO-EFFICIENT (N OCTANOL/WATER):	Not available
SATURATED VAPOR CONCENTRATION AND REFERENCE TEMPERATURE:	Not available
MOLECULAR WEIGHT:	Not applicable - mixture
MOLECULAR FORMULA:	Not applicable - mixture
ADDITIONAL CHARACTERISTICS NOT LISTED:	Surface active foaming.
<b>10. STABILITY AND REACTIVITY</b>	
STABILITY OF PRODUCT:	<input checked="" type="checkbox"/> Y Y = YES, N = NO, U = UNKNOWN Stable.
CONDITIONS TO AVOID:	High temperatures, flame and other ignition sources.
INCOMPATIBILITY (MATERIALS TO AVOID):	Strong oxidizers.
HAZARDOUS DECOMPOSITION PRODUCTS:	Oxides of carbon (CO <sub>x</sub> ).
HAZARDOUS DECOMPOSITION PRODUCTS FORMED UPON CONTACT WITH WATER:	None
DEGRADATION TO UNSTABLE PRODUCTS:	Will not occur.
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PRESENCE OF STABILIZERS:	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN None required.
EXOTHERMIC REACTION (POLYMERIZATION):	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN Will not occur.
SIGNIFICANCE OF CHANGE IN PHYSICAL APPEARANCE:		Under severely cold temperatures product may begin to turn cloudy which may degrade its functionality.
CONDITIONS OF REACTIVITY:		Do not heat above 80°C (176°F).
<b>11. TOXICOLOGICAL INFORMATION</b>		
LD <sub>50</sub> OF PRODUCT:		17423 mg/kg oral-rat (calculated)
LC <sub>50</sub> OF PRODUCT:		Not available
INHALATION ACUTE - ROUTE OF ENTRY AND EFFECTS OF EXPOSURE:	<input checked="" type="checkbox"/> Y	Y= YES, N= NO, U= UNKNOWN High levels may cause headache, nausea, dizziness.
INHALATION CHRONIC - ROUTE OF ENTRY AND EFFECTS OF EXPOSURE:	<input checked="" type="checkbox"/> Y	Y= YES, N= NO, U= UNKNOWN No longterm effects expected.
INGESTION - ROUTE OF ENTRY AND EFFECTS OF EXPOSURE:	<input checked="" type="checkbox"/> Y	Y= YES, N= NO, U= UNKNOWN Mildly toxic by ingestion. May cause nausea, headache and vomiting.
SKIN CONTACT - ROUTE OF ENTRY AND EFFECTS OF EXPOSURE:	<input checked="" type="checkbox"/> Y	Y= YES, N= NO, U= UNKNOWN May cause mild irritations, drying out of skin. Prolonged or repeated skin contact may cause drying out of skin, irritations and/or dermatitis.
SKIN ABSORPTION - ROUTE OF ENTRY AND EFFECTS OF EXPOSURE:	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN
EYE CONTACT - ROUTE OF ENTRY AND EFFECTS OF EXPOSURE:	<input checked="" type="checkbox"/> Y	Y= YES, N= NO, U= UNKNOWN May irritate eyes, cause redness and temporary corneal damage.
SUBCHRONIC EFFECTS:		CNS (Central Nervous System) Depression.
IS PRODUCT AN IRRITANT?	<input checked="" type="checkbox"/> Y	Y= YES, N= NO, U= UNKNOWN Eye and skin irritant.
IS PRODUCT A SENSITIZER?	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN
EVIDENCE OF EPIDEMIOLOGY:	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN
EVIDENCE OF CARCINOGENICITY:	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN IARC Group 3, Insufficient Evidence.
EVIDENCE OF REPRODUCTIVE TOXICITY:	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN Insufficient evidence.
EVIDENCE OF TERATOGENICITY:	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN
EVIDENCE OF MUTAGENICITY:	<input checked="" type="checkbox"/> N	Y= YES, N= NO, U= UNKNOWN
EVIDENCE OF NEUROTOXICITY:	<input checked="" type="checkbox"/> Y	Y= YES, N= NO, U= UNKNOWN May occur from ingestion of Isopropanol.

EVIDENCE OF NARCOSIS:	<input checked="" type="checkbox"/> Y Y= YES, N= NO, U= UNKNOWN May cause severe narcosis if large amounts are ingested.
OTHER STUDIES RELEVANT TO MATERIAL:	None known.
SYNERGISTIC PRODUCTS:	None known.
<b>12. ECOLOGICAL INFORMATION</b>	
<b>ECOTOXICITY</b>	
ACUTE AND LONG-TERM TOXICITY TO FISH AND INVERTEBRATES:	Solutions of alcohols are toxic to aquatic life at moderate to low concentrations. No longterm ecological effects are likely.
TOXICITY TO AQUATIC AND TERRESTRIAL PLANTS:	Concentrated solutions of alcohols and surfactants may cause damage to aquatic and terrestrial plants.
ACUTE AND DIETARY TOXICITY TO BIRDS:	Not expected to be toxic.
TOXICITY TO BENEFICIAL MICROORGANISMS:	Concentrated solutions of alcohols and surfactants have antimicrobial activity.
<b>ENVIRONMENTAL FATE</b>	
PERSISTENCE AND DEGRADATION:	Moderately persistent but is biodegradable over time.
BIOACCUMULATION / BIOCONCENTRATION:	Will not bioaccumulate.
SOIL MOBILITY:	Similar to water.
<b>PHYSICAL/CHEMICAL</b>	
For additional PHYSICAL/CHEMICAL characteristics see SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES.	
HYDROLYTIC AND PHOTOLYTIC STABILITY:	Stable.
<b>13. DISPOSAL CONSIDERATIONS</b>	
Please note: The advice in this section is given in accordance with the laws that were in effect at the time. Laws are transient and may change or be reinterpreted. State/Provincial or Local regulations are complex and may differ from Federal regulations. This information applies to the material as manufactured; processing, use or contamination may make the information inappropriate, inaccurate or incomplete. These regulations may also apply to empty containers, liners and rinsate. Remember that the responsibility for proper waste disposal lies with the owner of the waste. See SECTION 15 REGULATORY INFORMATION for additional regulations.	
CLASSIFICATION UNDER APPLICABLE LAWS (RCRA (Resource Conservation and Recovery Act), 40CFR 261):	RCRA: Not listed.
IDENTIFICATION (US EPA WASTE NUMBER & DESCRIPTIONS):	Not listed.
WASTE DISPOSAL METHOD:	Incinerate in an approved incinerator, or landfill. Consult Federal, State/Provincial and Local regulations.
DISPOSAL OF PACKAGING:	No restrictions.
SAFE HANDLING OF RESIDUES:	Not required.
CAN PACKAGING BE INCINERATED?:	<input checked="" type="checkbox"/> Y Y= YES, N= NO, U= UNKNOWN In an approved incinerator.
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### U.S. STATE REGULATIONS

**RIGHT TO KNOW  
REQUIREMENTS (STATE AND  
SUBSTANCE):**

Florida Hazardous Substances List: Isopropanol  
 Massachusetts Right-To-Know List: Isopropanol  
 Minnesota Hazardous Substances List: Isopropanol  
 New Jersey Right-To-Know List: Isopropanol sn 1076  
 New Jersey Right-To-Know Special Hazardous Substance: Isopropanol  
 (flammable - third degree) {new}  
 Pennsylvania Right-To-Know List: Isopropanol environmental hazard, Listed  
 as: [2-Propanol]  
 California Director's List of Hazardous Substances: Isopropanol

### CANADIAN REGULATIONS

**WHMIS (Workplace Hazardous  
Materials Information System):**

WHMIS Class: B3 - Combustible liquid  
 WHMIS Class: D2B - Toxic: Eye/Skin Irritant.

**CEPA (Canadian Environmental  
Protection Act) / DSL (Domestic  
Substances List):**

All the ingredients of this product are on the Canadian DSL as required by  
 CEPA.

### INTERNATIONAL REGULATIONS

**EUROPE:**

European Inventory of Existing Commercial Chemical Substances (EINECS)  
 Council Directive 67/548/EEC of June 1967 as amended by Directive  
 79/831/EEC

**UNITED KINGDOM:**

Health and Safety Executive (HSE) Occupational Exposure Standards (OESs)  
 - 1992  
 Time weighted Average: 400 ppm TWA; 980 mg/m<sup>3</sup> TWA  
 Short Term Exposure Limit: 500 ppm STEL; 1225 mg/m<sup>3</sup> STEL  
 Skin Absorption/Sensitization: can be absorbed through the skin.  
 Listed in United Kingdom OESs: [Propan-2-ol]

**JAPAN:**

Chemical Substance Control Law (MITI)

**AUSTRALIA:**

This information applies to Isopropanol only:  
 National Occupational Health and Safety Commission (NOHSC) Exposure  
 Standards For Atmospheric Contaminants In The Occupational Environment  
 - 1991  
 Time Weighted Average/Peak Limitation: 400 ppm TWA; 983 mg/m<sup>3</sup> TWA  
 Short Term Exposure Limit: 500 ppm STEL; 1230 mg/m<sup>3</sup> STEL  
 Exposure Standard Under Review: exposure limits under review

**GERMANY:**

This information applies to Isopropanol only:  
 Deutsche Forschungsgemeinschaft (DFG) Maximum Concentrations at The  
 Workplace (MAK) and Biological Tolerance Values for Working Materials (BAT)  
 - 1993  
 MAK Value: 400 ppm MAK; 980 mg/m<sup>3</sup> MAK  
 Peak Limitation: 2x normal MAK (30 min. average value); don't exceed 4 times  
 during shift  
 Embryotoxicity/Fetotoxicity: classification not yet possible.  
 Embryotoxicity/Fetotoxicity: classification not yet possible.

**ISRAEL:**

This information applies to Isopropanol only:  
 Occupational Exposure Limits For Chemical Substances - 1990  
 Time Weighted Average: 400 ppm TWA; 983 mg/m<sup>3</sup> TWA  
 Short Term Exposure Limit: 500 ppm STEL; 1230 mg/m<sup>3</sup> STEL  
 Action Level: 200 ppm AL; 491.5 mg/m<sup>3</sup> AL

**MEXICO:**

This information applies to Isopropanol only:  
 Secretariat of Labor and Social Welfare Instruction No. 10 Permissible  
 Concentrations - 1992  
 Time Weighted Average: 400 ppm TWA; 980 mg/m<sup>3</sup> TWA {new}

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Short Term Exposure Limit: 500 ppm STEL; 1225 mg/m<sup>3</sup> {new}  
 Skin Designation: skin - potential for cutaneous absorption {new}

OTHER INTERNATIONAL  
 REGULATIONS:

Not available

## 16. OTHER INFORMATION

REVISIONS (GIVE DATE AND  
 SPECIFY CHANGES):

Not applicable - first release

HAZARD RATINGS:

HMIS Classification: Fire = 1 (slightly flammable), Health = 1 (slightly hazardous),  
 Reactivity = 0 (stable), Personal Protection = b

0 = Least, 1 = Slight, 2 = Moderate, 3 = High, 4 = Extreme

This information is intended solely for the use of individuals trained in the particular system.

TRAINING REQUIREMENTS:

Workplace Hazardous Materials Information System training is required for handling and using this product in Canadian Workplaces. U.S. OSHA requirements for handling chemical substances must be in place for handling and using this product in the United States.

RECOMMENDED USES AND  
 RESTRICTIONS:

Cleaning of clear surfaces. Check for compatibility with material to be cleaned prior to use.

ADDITIONAL INFORMATION:

Keep out of reach of children.

DISCLAIMER:

This information is furnished without warranty, representation, or license of any kind, except that it is accurate to the best of H.L. BOUTON CO., INC.'s knowledge, or obtained from sources believed to be accurate. H.L. BOUTON CO., INC. does not assume any legal responsibility for use or reliance upon the same. Customers are encouraged to conduct their own tests and investigations. Before using the product, please read and understand the label and the Material Safety Data Sheet.

REFERENCES:

1. The Regulation Respecting the Control of Biological and Chemical Agents made under Occupational Health and Safety Act, Ont. Reg. 654/86.
2. International Agency for Research on Cancer, Monographs Evaluation for Carcinogenic Risk In Humans.
3. Text entitled "Dangerous Properties of Industrial Chemicals" by Sax, N.I.
4. The "Documentation of the Threshold Limit Values and Biological Exposure Indices" by the American Conference of Governmental Industrial Hygienists.
5. The Merck Index, An Encyclopedia of Chemicals.
6. The CCINFO System, Canadian Centre of Occupational Health and Safety.
7. RTECS database by the U.S. National Institute of Occupational Safety and Health.
8. New Jersey Department of Health Hazardous Substances Fact Sheet.
9. Canadian Environmental Protection Act, New Substances Notification Regulations - Domestic Substances List.
10. Original Supplier MSDS.

OTHER RELATED  
 MANUFACTURER'S  
 BROCHURES:

Not available

KEY/LEGEND:

Not available - means that the information for that field could not be obtained.  
 Not applicable - means that the field in question does not pertain to this particular product due to the inherent nature of the product.