

## 1. Product and Company Identification

<b>Product identifier</b>	<b>Visual Defects 'Crack Finder' Heat Exchanger Leak Detector (4385-06, 4385-00)</b>
<b>Other means of identification</b>	Not available
<b>Recommended use</b>	Heat Exchanger Leak Detection Solution
<b>Recommended restrictions</b>	None known.
<b>Manufacturer information</b>	Nu-Calgon 2008 Altom Court St. Louis, MO 63146 US Phone: 314-469-7000 / 800-554-5499 Emergency Phone: 1-800-424-9300 (CHEMTREC)
<b>Supplier</b>	See above.

## 2. Hazards Identification

<b>Physical hazards</b>	Flammable liquids	Category 3
<b>Health hazards</b>	Serious eye damage/eye irritation	Category 2A
	Specific target organ toxicity, single exposure	Category 3 narcotic effects
<b>Environmental hazards</b>	Not classified.	
<b>WHMIS 2015 defined hazards</b>	Not classified	
<b>Label elements</b>		



<b>Signal word</b>	Warning
<b>Hazard statement</b>	Flammable liquid and vapor. Causes serious eye irritation. May cause drowsiness or dizziness.
<b>Precautionary statement</b>	
<b>Prevention</b>	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting/equipment. Use non-sparking tools. Take action to prevent static discharges. Wear protective gloves/eye protection/face protection. Wash thoroughly after handling. Avoid breathing mist or vapor. Use only outdoors or in a well-ventilated area.
<b>Response</b>	In case of fire: Use appropriate media to extinguish. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower. 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. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.
<b>Storage</b>	Store in a well-ventilated place. Keep cool. Store locked up. Keep container tightly closed.
<b>Disposal</b>	Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)</b>	None known
<b>WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)</b>	None known
<b>Hazard(s) not otherwise classified (HNOC)</b>	None known.
<b>Supplemental information</b>	Not applicable.

## 3. Composition/Information on Ingredients

<b>Mixture</b>			
<b>Chemical name</b>	<b>Common name and synonyms</b>	<b>CAS number</b>	<b>%</b>
Isopropanol		67-63-0	10-30

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

**Composition comments** US GHS: The exact percentage (concentration) of composition has been withheld as a trade secret in accordance with paragraph (i) of §1910.1200.

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#### 4. First Aid Measures

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<b>Inhalation</b>	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.
<b>Skin contact</b>	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
<b>Eye contact</b>	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.
<b>Ingestion</b>	Rinse mouth. If ingestion of a large amount does occur, call a poison control center immediately.
<b>Most important symptoms/effects, acute and delayed</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea.
<b>Indication of immediate medical attention and special treatment needed</b>	Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.
<b>General information</b>	Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Take off all contaminated clothing immediately. Wash contaminated clothing before reuse.

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#### 5. Fire Fighting Measures

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<b>Suitable extinguishing media</b>	Dry chemical. Alcohol foam. Carbon dioxide.
<b>Unsuitable extinguishing media</b>	Do not use water jet as an extinguisher, as this will spread the fire.
<b>Specific hazards arising from the chemical</b>	Vapors may form explosive mixtures with air. Vapors may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.
<b>Special protective equipment and precautions for firefighters</b>	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
<b>Fire-fighting equipment/instructions</b>	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
<b>Specific methods</b>	Use standard firefighting procedures and consider the hazards of other involved materials.
<b>General fire hazards</b>	Flammable liquid and vapor.
<b>Hazardous combustion products</b>	May include and are not limited to: Oxides of carbon. Oxygen.

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#### 6. Accidental Release Measures

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<b>Personal precautions, protective equipment and emergency procedures</b>	Keep unnecessary personnel away. Keep out of low areas. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Avoid inhalation of vapors or mists. Ventilate closed spaces before entering them. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
<b>Methods and materials for containment and cleaning up</b>	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Take precautionary measures against static discharge. Use only non-sparking tools. Keep combustibles (wood, paper, oil, etc.) away from spilled material. Stop the flow of material, if this is without risk.  Large Spills: Dike the spilled material, where this is possible. Cover with plastic sheet to prevent spreading. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Prevent entry into waterways, sewer, basements or confined areas. Following product recovery, flush area with water.  Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
<b>Environmental precautions</b>	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground.

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#### 7. Handling and Storage

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<b>Precautions for safe handling</b>	Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep cool. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist or vapor. Avoid contact with eyes, skin and clothing. Avoid prolonged exposure. Provide adequate ventilation. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
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**Conditions for safe storage, including any incompatibilities**

Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques.  
 Store in a cool, dry place out of direct sunlight. Store in a well-ventilated place. Store away from incompatible materials (see Section 10 of the SDS).

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## 8. Exposure Controls/Personal Protection

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**Occupational exposure limits****Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	984 mg/m <sup>3</sup> 400 ppm
	TWA	492 mg/m <sup>3</sup> 200 ppm

**Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

**Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

**Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents)**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

**Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment)**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1230 mg/m <sup>3</sup> 500 ppm
	TWA	983 mg/m <sup>3</sup> 400 ppm

**US. OSHA Table Z-1 Limits for Air Contaminants (29 CFR 1910.1000)**

Components	Type	Value
Isopropanol (CAS 67-63-0)	PEL	980 mg/m <sup>3</sup> 400 ppm

**US. ACGIH Threshold Limit Values**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	400 ppm
	TWA	200 ppm

**US. NIOSH: Pocket Guide to Chemical Hazards**

Components	Type	Value
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m <sup>3</sup> 500 ppm
	TWA	980 mg/m <sup>3</sup> 400 ppm

**Biological limit values****ACGIH Biological Exposure Indices**

Components	Value	Determinant	Specimen	Sampling Time
Isopropanol (CAS 67-63-0)	40 mg/L	Acetone	Urine	*

\* - For sampling details, please see the source document.

**Appropriate engineering controls**

Explosion-proof general and local exhaust ventilation. Provide eyewash station.

**Individual protection measures, such as personal protective equipment**

<b>Eye/face protection</b>	Wear safety glasses with side shields (or goggles).
<b>Skin protection</b>	
<b>Hand protection</b>	Impervious gloves. Confirm with reputable supplier first.
<b>Other</b>	Wear suitable protective clothing.
<b>Respiratory protection</b>	Where exposure guideline levels may be exceeded, use an approved NIOSH respirator. Respirator should be selected by and used under the direction of a trained health and safety professional following requirements found in OSHA's respirator standard (29 CFR 1910.134), CAN/CSA-Z94.4 and ANSI's standard for respiratory protection (Z88.2).
<b>Thermal hazards</b>	Not available.
<b>General hygiene considerations</b>	When using do not smoke. 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 contaminants.

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**9. Physical and Chemical Properties**

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<b>Appearance</b>	Translucent
<b>Physical state</b>	Liquid.
<b>Form</b>	Liquid.
<b>Color</b>	Fluorescent Green
<b>Odor</b>	Not available.
<b>Odor threshold</b>	Not available.
<b>pH</b>	Not available.
<b>Melting point/freezing point</b>	Not available.
<b>Initial boiling point and boiling range</b>	205 °F (96.11 °C)
<b>Pour point</b>	Not available.
<b>Specific gravity</b>	0.98
<b>Partition coefficient (n-octanol/water)</b>	Not available.
<b>Flash point</b>	102.0 °F (38.9 °C) Tag Closed Cup
<b>Evaporation rate</b>	Not available.
<b>Flammability (solid, gas)</b>	Not applicable.
<b>Upper/lower flammability or explosive limits</b>	
<b>Flammability limit - lower (%)</b>	Not available.
<b>Flammability limit - upper (%)</b>	Not available.
<b>Explosive limit - lower (%)</b>	Not available.
<b>Explosive limit - upper (%)</b>	Not available.
<b>Vapor pressure</b>	Not available.
<b>Vapor density</b>	2
<b>Relative density</b>	Not available.
<b>Solubility(ies)</b>	Complete
<b>Auto-ignition temperature</b>	Not available.
<b>Decomposition temperature</b>	Not available.
<b>Viscosity</b>	Not available.

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**10. Stability and Reactivity**

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<b>Reactivity</b>	This product may react with strong oxidizing agents.
<b>Possibility of hazardous reactions</b>	No dangerous reaction known under conditions of normal use.
<b>Chemical stability</b>	Material is stable under normal conditions.
<b>Conditions to avoid</b>	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point.
<b>Incompatible materials</b>	Strong oxidizing agents. Acetyl chloride.
<b>Hazardous decomposition products</b>	May include and are not limited to: Oxides of carbon. Oxygen.

## 11. Toxicological Information

<b>Routes of exposure</b>	Inhalation. Ingestion. Skin contact. Eye contact.	
<b>Information on likely routes of exposure</b>		
<b>Ingestion</b>	May cause stomach distress, nausea or vomiting.	
<b>Inhalation</b>	Vapors have a narcotic effect and may cause headache, fatigue, dizziness and nausea. Prolonged inhalation may be harmful.	
<b>Skin contact</b>	No adverse effects due to skin contact are expected.	
<b>Eye contact</b>	Causes serious eye irritation.	
<b>Symptoms related to the physical, chemical and toxicological characteristics</b>	Symptoms may include stinging, tearing, redness, swelling, and blurred vision. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.	
<b>Information on toxicological effects</b>		
<b>Acute toxicity</b>	Narcotic effects.	
<b>Components</b>	<b>Species</b>	<b>Test Results</b>
Isopropanol (CAS 67-63-0)		
<b>Acute</b>		
<i>Dermal</i>		
LD50	Rabbit	12800 mg/kg
<i>Inhalation</i>		
LC50	Rat	16970 mg/l/4h
<i>Oral</i>		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5030 mg/kg
	Rat	4396 mg/kg
<b>Skin corrosion/irritation</b>	Prolonged skin contact may cause temporary irritation.	
<b>Exposure minutes</b>	Not available.	
<b>Erythema value</b>	Not available.	
<b>Oedema value</b>	Not available.	
<b>Serious eye damage/eye irritation</b>	Causes serious eye irritation.	
<b>Corneal opacity value</b>	Not available.	
<b>Iris lesion value</b>	Not available.	
<b>Conjunctival reddening value</b>	Not available.	
<b>Conjunctival oedema value</b>	Not available.	
<b>Recover days</b>	Not available.	
<b>Respiratory or skin sensitization</b>		
<b>Respiratory sensitization</b>	Not available.	
<b>Skin sensitization</b>	This product is not expected to cause skin sensitization.	
<b>Mutagenicity</b>	No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.	
<b>Carcinogenicity</b>	This product is not considered to be a carcinogen by IARC, NTP, or OSHA.	
<b>ACGIH Carcinogens</b>		
Isopropanol (CAS 67-63-0)	A4 Not classifiable as a human carcinogen.	
<b>Canada - Manitoba OELs: carcinogenicity</b>		
2-PROPANOL (CAS 67-63-0)	Not classifiable as a human carcinogen.	
<b>US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)</b>		
Not listed.		
<b>Reproductive toxicity</b>	This product is not expected to cause reproductive or developmental effects.	
<b>Teratogenicity</b>	Not available.	
<b>Specific target organ toxicity - single exposure</b>	Narcotic effects.	
<b>Specific target organ toxicity - repeated exposure</b>	Not classified.	

<b>Aspiration hazard</b>	Not available.
<b>Chronic effects</b>	Prolonged inhalation may be harmful.

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## 12. Ecological Information

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<b>Ecotoxicity</b>	See below		
<b>Ecotoxicological data</b>			
<b>Components</b>		<b>Species</b>	<b>Test Results</b>
Isopropanol (CAS 67-63-0)			
Algae	IC50	Algae	1000 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
<b>Aquatic</b>			
Fish	LC50	Bluegill ( <i>Lepomis macrochirus</i> )	> 1400 mg/L, 96 hours
<b>Persistence and degradability</b>	No data is available on the degradability of this product.		
<b>Bioaccumulative potential</b>	No data available.		
<b>Mobility in soil</b>	No data available.		
<b>Mobility in general</b>	Not available.		
<b>Other adverse effects</b>	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.		

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## 13. Disposal Considerations

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<b>Disposal instructions</b>	Do not allow this material to drain into sewers/water supplies. Do not contaminate ponds, waterways or ditches with chemical or used container. Dispose of contents/container in accordance with local/regional/national/international regulations.
<b>Local disposal regulations</b>	Dispose in accordance with all applicable regulations.
<b>Hazardous waste code</b>	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
<b>Waste from residues / unused products</b>	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
<b>Contaminated packaging</b>	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.

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## 14. Transport Information

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<b>Transport of Dangerous Goods (TDG) Proof of Classification</b>	In accordance with Part 2.2.1 (SOR/2014-152) of the Transportation of Dangerous Goods Regulations, we certify that the classification of this product is correct as of the SDS date of issue.
<b>U.S. Department of Transportation (DOT)</b>	
<b>Basic shipping requirements:</b>	
UN number	UN1993
Proper shipping name	Flammable liquids, n.o.s
Technical name	Isopropanol
Hazard class	Limited Quantity - US
Packing group	III
Special provisions	B1, B52, IB3, T4, TP1, TP29
Packaging exceptions	150
<b>Transportation of Dangerous Goods (TDG - Canada)</b>	
<b>Basic shipping requirements:</b>	
UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Technical name	Isopropanol
Hazard class	Limited Quantity - Canada
Packing group	III
Special provisions	16, 150
<b>IATA/ICAO (Air)</b>	
<b>Basic shipping requirements:</b>	
UN number	UN1993
Proper shipping name	Flammable liquid, n.o.s.
Technical name	Isopropanol
Hazard class	3
Packing group	III

**IMDG (Marine Transport)****Basic shipping requirements:**

**UN number** UN1993  
**Proper shipping name** FLAMMABLE LIQUID, N.O.S.  
**Technical name** Isopropanol  
**Hazard class** 3  
**Packing group** III

**DOT; TDG****IATA; IMDG**


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**15. Regulatory Information**


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**Canadian federal regulations** This product has been classified in accordance with the hazard criteria of the HPR and the SDS contains all the information required by the HPR.

**Canada NPRI VOCs with Additional Reporting Requirements: Mass reporting threshold/Identification Number**

Isopropanol (CAS 67-63-0) 1 TONNES

**Export Control List (CEPA 1999, Schedule 3)**

Not listed.

**Greenhouse Gases**

Not listed.

**Precursor Control Regulations**

Not regulated.

**WHMIS 2015 Exemptions** Not applicable

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

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

Not regulated.

**CERCLA Hazardous Substance List (40 CFR 302.4)**

Isopropanol (CAS 67-63-0) Listed.

**US. OSHA Specifically Regulated Substances (29 CFR 1910.1001-1050)**

Not listed.

**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** No

**SARA 311/312 Hazardous chemical** No

**SARA 313 (TRI reporting)**

Chemical name	CAS number	% by wt.
Isopropanol	67-63-0	10-30

**Other federal regulations**

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

Not regulated.

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

Not regulated.

**US state regulations**

**US - California Hazardous Substances (Director's): Listed substance**

Isopropanol (CAS 67-63-0) Listed.

**US - Illinois Chemical Safety Act: Listed substance**

Isopropanol (CAS 67-63-0)

**US - Louisiana Spill Reporting: Listed substance**

Isopropanol (CAS 67-63-0) Listed.

**US - Minnesota Haz Subs: Listed substance**

Isopropanol (CAS 67-63-0) Listed.

**US - New Jersey RTK - Substances: Listed substance**

Isopropanol (CAS 67-63-0)

**US - Texas Effects Screening Levels: Listed substance**

Isopropanol (CAS 67-63-0) Listed.

**US. Massachusetts RTK - Substance List**

Isopropanol (CAS 67-63-0)

**US. New Jersey Worker and Community Right-to-Know Act**

Isopropanol (CAS 67-63-0)

**US. Pennsylvania Worker and Community Right-to-Know Law**

Isopropanol (CAS 67-63-0)

**US. Rhode Island RTK**

Isopropanol (CAS 67-63-0)

**US. California Proposition 65**

Not Listed.

**Inventory status**

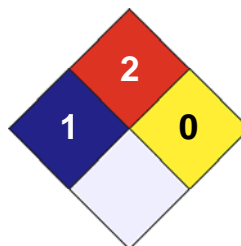
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

\*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

**16. Other Information**

LEGEND	
Severe	4
Serious	3
Moderate	2
Slight	1
Minimal	0

HEALTH	/ 1
FLAMMABILITY	2
PHYSICAL HAZARD	0
PERSONAL PROTECTION	X



**Disclaimer**

Information contained herein was obtained from sources considered technically accurate and reliable. While every effort has been made to ensure full disclosure of product hazards, in some cases data is not available and is so stated. Since conditions of actual product use are beyond control of the supplier, it is assumed that users of this material have been fully trained according to the requirements of all applicable legislation and regulatory instruments. No warranty, expressed or implied, is made and supplier will not be liable for any losses, injuries or consequential damages which may result from the use of or reliance on any information contained in this document.

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01

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**Prepared by**

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