SAFETY DATA SHEET

1. Product and Company Identification

Product identifier	**Gas Leak Detector (4180-53, 4832-C9)**
Other means of identification	Not available
Recommended use	Gas Leak Detector
Recommended restrictions	This chemical/product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.
Manufacturer information	Nu-Calgon 2611 Schuetz Road St. Louis, MO 63043 US Phone: 314-469-7000 / 800-554-5499 Emergency Phone: 1-800-424-9300 (CHEMTREC)
Supplier	See above.

2. Hazards Identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Serious eye damage/eye irritation	Category 2
	Carcinogenicity	Category 2
Environmental hazards	Not classified.	
WHMIS 2015 defined hazards	Not classified	

Label elements

Signal word	Warning
Hazard statement	Flammable liquid and vapor. Causes serious eye irritation. Suspected of causing cancer.
Precautionary statement	
Prevention	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 and lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Wash thoroughly after handling. Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves, protective clothing, eye protection and face protection.
Response	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 attention. IF exposed or concerned: Get medical attention.
Storage	Store in a well-ventilated place. Keep cool. Store locked up.
Disposal	Dispose of container in accordance with local, regional, national and international regulations.
WHMIS 2015: Health Hazard(s) not otherwise classified (HHNOC)	None known
WHMIS 2015: Physical Hazard(s) not otherwise classified (PHNOC)	None known
Hazard(s) not otherwise classified (HNOC)	None known.
Supplemental information	None.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Amides, coco, N,N-bis(hydroxyethyl)		68603-42-9	0.5-1.5*
Ethanol, 2,2''-iminobis-		111-42-2	0.1-1*

Chemical name	Common name and synonyms	CAS number	%
Glycerol		56-81-5	30-60*
Isopropanol		67-63-0	3-7*
Polyethylene glycol		25322-68-3	10-30*
Sulfuric acid, monododecyl ester, compd. with 2,2'',2''''-nitrilotris[ethanol] (1:1)		139-96-8	1-5*

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.
*CANADA GHS: The exact percentage (concentration) of composition has been withheld as a trade secret.

4. First Aid Measures

Inhalation If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center or doctor if you feel unwell.

Skin contact IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.

Eye contact 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 attention.

Ingestion Call a poison control center or doctor immediately for treatment advice. Have person sip a glass of water if able to swallow. DO NOT induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person. Never give anything by mouth if victim is unconscious or is convulsing.

Most important symptoms/effects, acute and delayed Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Keep away from sources of ignition. No smoking. Avoid contact with eyes, skin and clothing. Take off all contaminated clothing immediately. Wash contaminated clothing before reuse. Wear rubber gloves and safety glasses with side shields. Keep out of reach of children.

5. Fire Fighting Measures

Suitable extinguishing media Foam. Water fog. Carbon dioxide (CO2).

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. During fire, gases hazardous to health may be formed. Firefighters should wear a self-contained breathing apparatus.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Flammable liquid and vapor.

Hazardous combustion products May include and are not limited to: Oxides of nitrogen. Hydrogen chloride. Oxides of carbon.

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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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.

Methods and materials for containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Stop the flow of material, if this is without risk. 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. Never return spills in original containers for re-use. Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. For waste disposal, see section 13 of the SDS.
Environmental precautions	Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Vapors may form explosive mixtures with air. Avoid breathing vapors or mists of this product. Use only with adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid contact with eyes, skin and clothing. When using do not eat or drink. Wash thoroughly after handling. Keep container tightly closed.
Conditions for safe storage, including any incompatibilities	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. Keep in an area equipped with sprinklers. Keep out of reach of children. Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

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

Components	Type	Value	Form
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	2 mg/m3	
Glycerol (CAS 56-81-5)	TWA	10 mg/m3	Mist.
Isopropanol (CAS 67-63-0)	STEL	984 mg/m3	
		400 ppm	
	TWA	492 mg/m3	
		200 ppm	

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

Components	Type	Value	Form
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	2 mg/m3	
Glycerol (CAS 56-81-5)	TWA	3 mg/m3	Respirable mist.
		10 mg/m3	Mist.
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	Form
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
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	Form
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
Glycerol (CAS 56-81-5)	TWA	10 mg/m3	Mist.
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	Form
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	13 mg/m3	
		3 ppm	
Glycerol (CAS 56-81-5)	TWA	10 mg/m3	Mist.
Isopropanol (CAS 67-63-0)	STEL	1230 mg/m3	
		500 ppm	
	TWA	983 mg/m3	
		400 ppm	

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

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Isopropanol (CAS 67-63-0)	PEL	980 mg/m3	
		400 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
Isopropanol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Polyethylene glycol (CAS 25322-68-3)	TWA	10 mg/m3	Particulate.

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.

Exposure guidelines

Canada - Alberta OELs: Skin designation

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

Canada - British Columbia OELs: Skin designation

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

Canada - Manitoba OELs: Skin designation

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

Canada - Ontario OELs: Skin designation

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

Canada - Quebec OELs: Skin designation

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

Canada - Saskatchewan OELs: Skin designation

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

US. NIOSH: Pocket Guide to Chemical Hazards

1,3-Dichloropropene (CAS 542-75-6)	Can be absorbed through the skin.
Methanol (CAS 67-56-1)	Can be absorbed through the skin.

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.

Individual protection measures, such as personal protective equipment

Eye/face protection Wear safety glasses with side shields (or goggles).

Skin protection

Hand protection Impervious gloves. Confirm with reputable supplier first.

Other As required by employer code.

Respiratory protection 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).

Thermal hazards Not applicable.

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 contaminants.

9. Physical and Chemical Properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Clear
Odor	Isopropanol
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	unknown
Pour point	Not available.
Specific gravity	1.1 - 1.15
Partition coefficient (n-octanol/water)	Not available.
Flash point	102.2 °F (39.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.

Upper/lower flammability or explosive limits

Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.

Relative density	Not available.
Solubility(ies)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.

10. Stability and Reactivity

Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Do not mix with other chemicals.
Incompatible materials	Strong oxidizing agents. Isocyanates. Chlorine.
Hazardous decomposition products	May include and are not limited to: Oxides of nitrogen. Hydrogen chloride. Oxides of carbon.

11. Toxicological Information

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Information on likely routes of exposure

Ingestion	May cause stomach distress, nausea or vomiting.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause irritation.
Eye contact	Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity

Components	Species	Test Results
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)		
Acute		
Dermal		
LD50	Rabbit	> 2000 mg/kg, EPA
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	> 5000 mg/kg, HSDB
		12200 mg/kg, HSDB
Ethanol, 2,2''-iminobis- (CAS 111-42-2)		
Acute		
Dermal		
LD50	Rabbit	11.9 ml/kg, HSDB
	Rat	8328 mg/kg, RTECS
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	2500 mg/kg, ECHA
		1820 mg/kg, ECHA
		1600 mg/kg, ECHA
		1100 mg/kg, ECHA
		710 mg/kg, HSDB

Components	Species	Test Results
Glycerol (CAS 56-81-5)		
Acute		
Dermal		
LD50	Guinea pig	45 ml/kg, Days, ECHA
	Rabbit	> 10000 mg/kg, SIGMA ALDRICH
		23000 mg/kg, CCOHS
Inhalation		
LC50	Rat	> 570 mg/m3, 1 Hours, HSDB
		> 143 mg/m³, 4 Hours, CCOHS
		4655 mg.min/l, 7 Hours, ECHA
Oral		
LD50	Guinea pig	> 10000 mg/kg, ECHA
	Mouse	23000 mg/kg, CCOHS
		20.8 ml/kg, ECHA
	Rat	> 12600 mg/kg, SIGMA ALDRICH
		27200 mg/kg, CCOHS
		18300 mg/kg, ECHA
Isopropanol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg, HSDB
		16.4 ml/kg, 24 Hours, ECHA
Inhalation		
LC50	Rat	> 10000 ppm, 6 Hours, ECHA
		16970 mg/l/4h, HMIRA
Oral		
LD50	Dog	4797 mg/kg, HSDB
	Mouse	3600 mg/kg, HSDB
	Rabbit	5030 mg/kg, HSDB
		5 g/kg, HSDB
	Rat	5.8 g/kg, ECHA
Polyethylene glycol (CAS 25322-68-3)		
Acute		
Dermal		
LD50	Rat	> 2000 mg/kg, ECHA
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	5010 mg/kg, ECHA
		4300 mg/kg, ECHA
Sulfuric acid, monododecyl ester, compd. with 2,2'',2''''-nitrilotris[ethanol] (1:1) (CAS 139-96-8)		
Acute		
Dermal		
LD50	Not available	
Inhalation		
LC50	Not available	
Oral		
LD50	Not available	

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Exposure minutes Not available.

Erythema value Not available.

Oedema value	Not available.
Serious eye damage/eye irritation	Causes serious eye irritation.
Corneal opacity value	Not available.
Iris lesion value	Not available.
Conjunctival reddening value	Not available.
Conjunctival oedema value	Not available.
Recover days	Not available.
Respiratory or skin sensitization	Not available.

ACGIH sensitization

Formaldehyde (CAS 50-00-0)	Dermal sensitization Respiratory sensitization

Canada - Alberta OELs: Irritant

Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)	Irritant
Glycerol (CAS 56-81-5)	Irritant

Canada - British Columbia OELs: Respiratory or skin sensitiser

Formaldehyde (CAS 50-00-0)	Capable of causing respiratory, dermal or conjunctival sensitization.

Canada - Manitoba OELs Hazard: Dermal sensitization

Formaldehyde (CAS 50-00-0)	Dermal sensitization

Canada - Manitoba OELs Hazard: Respiratory sensitization

Formaldehyde (CAS 50-00-0)	Respiratory sensitization

Canada - Saskatchewan OELs Hazard Data: Sensitiser

Formaldehyde (CAS 50-00-0)	Sensitizer.

Respiratory sensitization	Not available.
Skin sensitization	This product is not expected to cause skin sensitization.
Mutagenicity	Not classified.
Carcinogenicity	Contains potential carcinogens.

ACGIH Carcinogens

1,3-Dichloropropene (CAS 542-75-6)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Formaldehyde (CAS 50-00-0)	A1 Confirmed human carcinogen.
Methylene chloride (CAS 75-09-2)	A3 Confirmed animal carcinogen with unknown relevance to humans.

Canada - Alberta OELs: Carcinogen category

Formaldehyde (CAS 50-00-0)	Suspected human carcinogen.

Canada - Manitoba OELs: carcinogenicity

1,3-DICHLOROPROPENE (CAS 542-75-6)	Confirmed animal carcinogen with unknown relevance to humans.
DICHLOROMETHANE (CAS 75-09-2)	Confirmed animal carcinogen with unknown relevance to humans.
DIETHANOLAMINE, INHALABLE FRACTION AND VAPOR (CAS 111-42-2)	Confirmed animal carcinogen with unknown relevance to humans.
FORMALDEHYDE (CAS 50-00-0)	Confirmed human carcinogen.

Canada - Quebec OELs: Carcinogen category

1,3-Dichloropropene (CAS 542-75-6)	Detected carcinogenic effect in animals.
Formaldehyde (CAS 50-00-0)	Suspected carcinogenic effect in humans.
Methylene chloride (CAS 75-09-2)	Suspected carcinogenic effect in humans.

IARC Monographs. Overall Evaluation of Carcinogenicity

1,3-Dichloropropene (CAS 542-75-6)	Volume 41, Supplement 7, Volume 71 - 2B Possibly carcinogenic to humans.
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)	Volume 101 - 2B Possibly carcinogenic to humans.
Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)	Volume 77 - 3 Not classifiable as to carcinogenicity to humans.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Volume 77, Volume 101 - 2B Possibly carcinogenic to humans.
Formaldehyde (CAS 50-00-0)	Volume 88, Volume 100F 1 Carcinogenic to humans.
Methylene chloride (CAS 75-09-2)	Volume 71, Volume 110 - 2A Probably carcinogenic to humans.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,3-Dichloropropene (CAS 542-75-6)
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)
Ethanol, 2,2''-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)

Methylene chloride (CAS 75-09-2)

US NTP Report on Carcinogens: Anticipated carcinogen

1,3-Dichloropropene (CAS 542-75-6)	Reasonably Anticipated to be a Human Carcinogen.
Methylene chloride (CAS 75-09-2)	Reasonably Anticipated to be a Human Carcinogen.

US NTP Report on Carcinogens: Known carcinogen

Formaldehyde (CAS 50-00-0)	Known To Be Human Carcinogen.

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

Formaldehyde (CAS 50-00-0)	Cancer
Methylene chloride (CAS 75-09-2)	Cancer

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Teratogenicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological Information

Ecotoxicity See below

Ecotoxicological data

Components		Species	Test Results
Ethanol, 2,2''-iminobis- (CAS 111-42-2)			
Algae	IC50	Algae	7.8 mg/L, 72 Hours
Crustacea	EC50	Daphnia	55 mg/L, 48 Hours
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	100 mg/L, 96 hours
Glycerol (CAS 56-81-5)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	51000 - 57000 mg/L, 96 hours
Isopropanol (CAS 67-63-0)			
Algae	IC50	Algae	1000 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/L, 96 hours
Polyethylene glycol (CAS 25322-68-3)			
Aquatic			
Fish	LC50	Atlantic salmon (Salmo salar)	> 1000 mg/L, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general 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 in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. 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.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between 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 (see: 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. Transport Information

Transport of Dangerous Goods (TDG) Proof of Classification	Classification Method: Classified as per Part 2, Sections 2.1 – 2.8 of the Transportation of Dangerous Goods Regulations. If applicable, the technical name and the classification of the product will appear below.

U.S. Department of Transportation (DOT)

Basic shipping requirements:

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

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

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

IATA/ICAO (Air)

Basic shipping requirements:

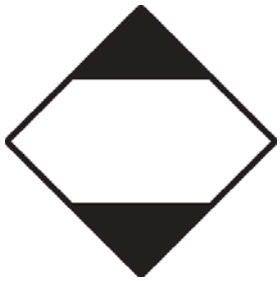
UN number	UN1993
Proper shipping name	Flammable liquid, n.o.s.
Technical name	Isopropanol
Hazard class	Limited Quantity - IATA
Packing group	III

IMDG (Marine Transport)

Basic shipping requirements:

UN number	UN1993
Proper shipping name	FLAMMABLE LIQUID, N.O.S.
Technical name	Isopropanol
Hazard class	Limited Quantity - IMDG
Packing group	III

DOT; IMDG; TDG



IATA

15. Regulatory Information

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 CEPA Schedule I: Listed substance

Formaldehyde (CAS 50-00-0)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.

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

Formaldehyde (CAS 50-00-0)	1 TONNES
Isopropanol (CAS 67-63-0)	1 TONNES
Methanol (CAS 67-56-1)	1 TONNES

Canada Priority Substances List (Second List): Listed substance

Formaldehyde (CAS 50-00-0)	Listed.

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. All chemicals used are on the TSCA inventory. This chemical/ product is not and cannot be distributed in commerce (as defined in TSCA section 3(5)) or processed (as defined in TSCA section 3(13)) for consumer paint or coating removal.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

1,3-Dichloropropene (CAS 542-75-6)	Listed.
Ethanol, 2,2"-iminobis- (CAS 111-42-2)	Listed.
Formaldehyde (CAS 50-00-0)	Listed.
Isopropanol (CAS 67-63-0)	Listed.
Methanol (CAS 67-56-1)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.

US EPCRA Section 304 Extremely Haz. Subs. & CERCLA Haz. Subs.: Section 304 EHS reportable quantity

Formaldehyde (CAS 50-00-0)	100 LBS

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

Formaldehyde (CAS 50-00-0)	Cancer
Methylene chloride (CAS 75-09-2)	Cancer
Formaldehyde (CAS 50-00-0)	Skin sensitization
Methylene chloride (CAS 75-09-2)	Heart
Formaldehyde (CAS 50-00-0)	Respiratory sensitization
Methylene chloride (CAS 75-09-2)	Central nervous system
Formaldehyde (CAS 50-00-0)	Eye irritation
Methylene chloride (CAS 75-09-2)	Liver
Formaldehyde (CAS 50-00-0)	Skin irritation
Methylene chloride (CAS 75-09-2)	Skin irritation
Formaldehyde (CAS 50-00-0)	respiratory tract irritation
Methylene chloride (CAS 75-09-2)	Eye irritation
Formaldehyde (CAS 50-00-0)	Acute toxicity
	Flammability

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
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	3-7*

Other federal regulations

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

1,3-Dichloropropene (CAS 542-75-6)
Ethanol, 2,2"-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)

Methanol (CAS 67-56-1)
Methylene chloride (CAS 75-09-2)

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

Formaldehyde (CAS 50-00-0)

US state regulations

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

1,3-Dichloropropene (CAS 542-75-6)	Listed.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Formaldehyde (CAS 50-00-0)	Listed.
Isopropanol (CAS 67-63-0)	Listed.
Methanol (CAS 67-56-1)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.

US - Illinois Chemical Safety Act: Listed substance

1,3-Dichloropropene (CAS 542-75-6)
Ethanol, 2,2''-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)
Isopropanol (CAS 67-63-0)
Methanol (CAS 67-56-1)
Methylene chloride (CAS 75-09-2)

US - Louisiana Spill Reporting: Listed substance

1,3-Dichloropropene (CAS 542-75-6)	Listed.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Formaldehyde (CAS 50-00-0)	Listed.
Isopropanol (CAS 67-63-0)	Listed.
Methanol (CAS 67-56-1)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.

US - Michigan Critical Materials Register: Parameter number

Methylene chloride (CAS 75-09-2)

US - Minnesota Haz Subs: Listed substance

1,3-Dichloropropene (CAS 542-75-6)	Listed.
Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)	Listed.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Formaldehyde (CAS 50-00-0)	Listed.
Glycerol (CAS 56-81-5)	Listed.
Isopropanol (CAS 67-63-0)	Listed.
Methanol (CAS 67-56-1)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.
Polyethylene glycol (CAS 25322-68-3)	Listed.

US - New Jersey RTK - Substances: Listed substance

1,3,5,7-Tetraazatricyclo[3.3.1.13,7]decane (CAS 100-97-0)
1,3-Dichloropropene (CAS 542-75-6)
Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)
Ethanol, 2,2''-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)
Glycerol (CAS 56-81-5)
Isopropanol (CAS 67-63-0)
Methanol (CAS 67-56-1)
Methylene chloride (CAS 75-09-2)

US - North Carolina Toxic Air Pollutants: Listed substance

Formaldehyde (CAS 50-00-0)
Methylene chloride (CAS 75-09-2)

US - Pennsylvania RTK - Hazardous Substances: Special hazard

1,3-Dichloropropene (CAS 542-75-6)
Formaldehyde (CAS 50-00-0)
Methylene chloride (CAS 75-09-2)

US - Texas Effects Screening Levels: Listed substance

1,3,5,7-Tetraazatricyclo[3.3.1.13,7]decane (CAS 100-97-0)	Listed.
1,3-Dichloropropene (CAS 542-75-6)	Listed.
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)	Listed.
Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)	Listed.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Formaldehyde (CAS 50-00-0)	Listed.
Glycerol (CAS 56-81-5)	Listed.
Isopropanol (CAS 67-63-0)	Listed.
Methanol (CAS 67-56-1)	Listed.
Methylene chloride (CAS 75-09-2)	Listed.

Polyethylene glycol (CAS 25322-68-3) Listed.

US - Washington Chemical of High Concern to Children: Listed substance

Formaldehyde (CAS 50-00-0)
Methylene chloride (CAS 75-09-2)

US. Massachusetts RTK - Substance List

1,3-Dichloropropene (CAS 542-75-6)
Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)
Ethanol, 2,2''-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)
Glycerol (CAS 56-81-5)
Isopropanol (CAS 67-63-0)
Methanol (CAS 67-56-1)
Methylene chloride (CAS 75-09-2)

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

1,3-Dichloropropene (CAS 542-75-6)
Ethanol, 2,2''-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)
Isopropanol (CAS 67-63-0)
Methanol (CAS 67-56-1)
Methylene chloride (CAS 75-09-2)

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

1,3-Dichloropropene (CAS 542-75-6)
Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)
Ethanol, 2,2''-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)
Glycerol (CAS 56-81-5)
Isopropanol (CAS 67-63-0)
Methanol (CAS 67-56-1)
Methylene chloride (CAS 75-09-2)

US. Rhode Island RTK

1,3-Dichloropropene (CAS 542-75-6)
Ethanol, 2,2'',2''''-nitrilotris- (CAS 102-71-6)
Ethanol, 2,2''-iminobis- (CAS 111-42-2)
Formaldehyde (CAS 50-00-0)
Glycerol (CAS 56-81-5)
Isopropanol (CAS 67-63-0)
Methanol (CAS 67-56-1)
Methylene chloride (CAS 75-09-2)

US. California Proposition 65

WARNING: This product can expose you to chemicals including Formaldehyde, which is known to the State of California to cause cancer, and Methanol, which is known to the State of California to cause birth defects or other reproductive harm. For more information go to www.P65Warnings.ca.gov.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,3-Dichloropropene (CAS 542-75-6)	Listed: January 1, 1989
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)	Listed: June 22, 2012
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed: June 22, 2012
Formaldehyde (CAS 50-00-0)	Listed: January 1, 1988
Methylene chloride (CAS 75-09-2)	Listed: April 1, 1988

US - California Proposition 65 - CRT: Listed date/Developmental toxin

Methanol (CAS 67-56-1)	Listed: March 16, 2012

Inventory status

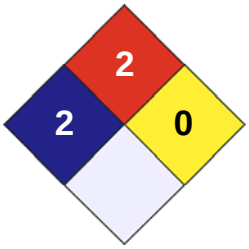
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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	* 2
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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Effective date 26-August-2019

Prepared by Nu-Calgon Technical Service Phone: (314) 469-7000

Other information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

SAFETY DATA SHEET

1. Product and Company Identification

Product identifier **Gas Leak Detector (4180-53)**

Other means of identification Not available **Recommended**

use Gas Leak Detector

Recommended restrictions None known.

Manufacturer

Nu-Calgon
2008 Altom Court
St. Louis, MO 63146 US
Phone: 314-469-7000 / 800-554-5499
Emergency Phone: 1-800-424-9300 (CHEMTREC)

2. Hazards Identification

Physical hazards	Flammable liquids	Category 3
Health hazards	Serious eye damage/eye irritation	Category 2
	Carcinogenicity	Category 2

Environmental hazards Not classified.

OSHA defined hazards Not classified.

Label elements

Signal word Warning

Hazard statement

Flammable liquid and vapor.
Causes serious eye irritation.
Suspected of causing cancer.

Precautionary statement

Prevention

Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed. Ground/bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use only non-sparking tools. Take precautionary measures against static discharge.
Wash thoroughly after handling.
Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Wear protective gloves/protective clothing/eye protection/face protection.

Response

If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
In case of fire: Use appropriate media to extinguish.
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 exposed or concerned: Get medical advice/attention.

Storage

Store in a well-ventilated place. Keep cool.
Store locked up.

Disposal

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

Hazard(s) not otherwise classified (HNOC) None known.

Supplemental information 17% of the mixture consists of component(s) of unknown acute inhalation toxicity.

3. Composition/Information on Ingredients

Mixture

Chemical name	Common name and synonyms	CAS number	%
Glycerol		56-81-5	30-60
Polyethylene glycol		25322-68-3	10-30
Isopropanol		67-63-0	3-7
Sulfuric acid, monododecyl ester, compd. with 2,2',2''-nitrilotris[ethanol] (1:1)		139-96-8	1-5

Chemical name	Common name and synonyms	CAS number	%
Amides, coco, N,N-bis(hydroxyethyl)		68603-42-9	0.5-1.5
Ethanol, 2,2''-iminobis-		111-42-2	0.1-1

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.

4. First Aid Measures

Inhalation If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a poison center/doctor if you feel unwell.

Skin contact If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.

Eye contact 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.

Ingestion If swallowed: Rinse mouth. Do NOT induce vomiting. Immediately call a poison center/doctor/.

Most important symptoms/effects, acute and delayed Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Indication of immediate medical attention and special treatment needed Provide general supportive measures and treat symptomatically. Keep victim under observation. Symptoms may be delayed.

General information Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Show this safety data sheet to the doctor in attendance. Keep away from sources of ignition. No smoking. Avoid contact with eyes, skin and clothing. Take off all contaminated clothing immediately. Wash contaminated clothing before reuse. Keep out of reach of children.

5. Fire Fighting Measures

Suitable extinguishing media Foam. Water fog. Carbon dioxide (CO2).

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. During fire, gases hazardous to health may be formed. Firefighters should wear a self-contained breathing apparatus.

Special protective equipment and precautions for firefighters Self-contained breathing apparatus and full protective clothing must be worn in case of fire.

Fire-fighting equipment/instructions In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.

Specific methods Use standard firefighting procedures and consider the hazards of other involved materials.

General fire hazards Flammable liquid and vapor.

Hazardous combustion products May include and are not limited to: Oxides of nitrogen. Hydrogen chloride. Oxides of carbon.

Explosion data

Sensitivity to mechanical impact Not available.

Sensitivity to static discharge Not available.

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. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. 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.

Methods and materials for containment and cleaning up Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil, etc.) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools. Stop the flow of material, if this is without risk. 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. Never return spills in original containers for re-use. Clean surface thoroughly to remove residual contamination. Following product recovery, flush area with water. Prevent entry into waterways, sewer, basements or confined areas. Use water spray to reduce vapors or divert vapor cloud drift. For waste disposal, see section 13 of the SDS.

Environmental precautions Avoid discharge into drains, water courses or onto the ground.

7. Handling and Storage

Precautions for safe handling

Obtain special instructions before use. Do not handle until all safety precautions have been read and understood. Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Vapors may form explosive mixtures with air. Avoid breathing vapors or mists of this product. Use only with adequate ventilation. Avoid prolonged exposure. Wear appropriate personal protective equipment. Avoid contact with eyes, skin and clothing. When using do not eat or drink. Wash thoroughly after handling. Keep container tightly closed.

Conditions for safe storage, including any incompatibilities

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. Keep in an area equipped with sprinklers. Keep out of reach of children. Store locked up. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure Controls/Personal Protection

Occupational exposure limits

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

Components	Type	Value	Form
Glycerol (CAS 56-81-5)	PEL	5 mg/m3	Respirable fraction.
		15 mg/m3	Total dust.
Isopropanol (CAS 67-63-0)	PEL	980 mg/m3	
		400 ppm	

US. ACGIH Threshold Limit Values

Components	Type	Value	Form
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	1 mg/m3	Inhalable fraction and vapor.
Isopropanol (CAS 67-63-0)	STEL	400 ppm	
	TWA	200 ppm	

US. NIOSH: Pocket Guide to Chemical Hazards

Components	Type	Value
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	TWA	15 mg/m3
		3 ppm
Isopropanol (CAS 67-63-0)	STEL	1225 mg/m3
		500 ppm
	TWA	980 mg/m3
		400 ppm

US. AIHA Workplace Environmental Exposure Level (WEEL) Guides

Components	Type	Value	Form
Polyethylene glycol (CAS 25322-68-3)	TWA	10 mg/m3	Particulate.

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

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.

Individual protection measures, such as personal protective equipment

Eye/face protection

Chemical goggles are recommended.

Skin protection

Hand protection

Rubber gloves. Confirm with a reputable supplier first.

Other

As required by employer code.

Respiratory protection

If engineering controls do not maintain airborne concentrations below recommended exposure limits (where applicable) or to an acceptable level (in countries where exposure limits have not been established), an approved respirator must be worn.

Thermal hazards	Not applicable.
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 contaminants.

9. Physical and Chemical Properties

Appearance	Liquid
Physical state	Liquid.
Form	Liquid.
Color	Clear
Odor	Isopropanol
Odor threshold	Not available.
pH	Not available.
Melting point/freezing point	Not available.
Initial boiling point and boiling range	unknown
Pour point	Not available.
Specific gravity	1.1 - 1.15
Partition coefficient (n-octanol/water)	Not available.
Flash point	102.2 °F (39.0 °C)
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or explosive limits	
Flammability limit - lower (%)	Not available.
Flammability limit - upper (%)	Not available.
Explosive limit - lower (%)	Not available.
Explosive limit - upper (%)	Not available.
Vapor pressure	Not available.
Vapor density	Not available.
Relative density	Not available.

Solubility(ies) Not available. **Auto-ignition temperature** Not available.

Decomposition temperature Not available.

Viscosity Not available.

10. Stability and Reactivity

Reactivity	The product is stable and non reactive under normal conditions of use, storage and transport.
Possibility of hazardous reactions	Hazardous polymerization does not occur.
Chemical stability	Stable under recommended storage conditions.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Do not mix with other chemicals.
Incompatible materials	Strong oxidizing agents. Isocyanates. Chlorine.
Hazardous decomposition products	May include and are not limited to: Oxides of nitrogen. Hydrogen chloride. Oxides of carbon.

11. Toxicological Information

Routes of exposure Eye, Skin contact, Inhalation, Ingestion.

Information on likely routes of exposure

Ingestion	Expected to be a low ingestion hazard.
Inhalation	Prolonged inhalation may be harmful.
Skin contact	May cause irritation.

US ACGIH Threshold Limit Values: Skin designation

Ethanol, 2,2''-iminobis- (CAS 111-42-2) IV Can be absorbed through the skin.

Eye contact	Causes serious eye irritation.
Symptoms related to the physical, chemical and toxicological characteristics	Symptoms may include stinging, tearing, redness, swelling, and blurred vision.

Information on toxicological effects

Acute toxicity

Components	**Species**	**Test Results**
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)		
Acute		
Dermal		
LD50	Rabbit	1220 mg/kg
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	2700 mg/kg
Ethanol, 2,2''-iminobis- (CAS 111-42-2)		
Acute		
Dermal		
LD50	Rabbit	11.9 ml/kg
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	710 mg/kg
Glycerol (CAS 56-81-5)		
Acute		
Dermal		
LD50	Rabbit	> 10000 mg/kg
		23000 mg/kg
Inhalation		
LC50	Rat	> 143 mg/m³, 4 Hours
Oral		
LD50	Mouse	23000 mg/kg
	Rat	> 12600 mg/kg
		27200 mg/kg
Isopropanol (CAS 67-63-0)		
Acute		
Dermal		
LD50	Rabbit	12800 mg/kg
Inhalation		
LC50	Rat	16970 mg/l/4h
Oral		
LD50	Dog	4797 mg/kg
	Mouse	3600 mg/kg
	Rabbit	5030 mg/kg
	Rat	4396 mg/kg
Polyethylene glycol (CAS 25322-68-3)		
Acute		
LC50	Not available	
Dermal		
LD50	Rabbit	20000 mg/kg
Oral		
LD50	Guinea pig	19600 mg/kg
	Rat	27500 mg/kg

Components	Species	Test Results
Sulfuric acid, monododecyl ester, compd. with 2,2',2''-nitrilotris[ethanol] (1:1) (CAS 139-96-8)		
Acute		
Inhalation		
LC50	Not available	
Oral		
LD50	Rat	> 2000 mg/kg

Skin corrosion/irritation Prolonged skin contact may cause temporary irritation.

Exposure minutes Not available.

Erythema value Not available.

Oedema value Not available.

Serious eye damage/eye irritation Causes serious eye irritation.

Corneal opacity value Not available.

Iris lesion value Not available.

Conjunctival reddening value Not available.

Conjunctival oedema value Not available.

Recover days Not available.

Respiratory or skin sensitization Not available.

Respiratory sensitization Not available.

Skin sensitization This product is not expected to cause skin sensitization.

US ACGIH Threshold Limit Values: Skin designation

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	IV Can be absorbed through the skin.

US ACGIH Threshold Limit Values: Skin designation

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	IV Can be absorbed through the skin.

Germ cell mutagenicity Not classified.

Mutagenicity Not classified.

Carcinogenicity Contains potential carcinogens.

ACGIH Carcinogens

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	A3 Confirmed animal carcinogen with unknown relevance to humans.
Isopropanol (CAS 67-63-0)	A4 Not classifiable as a human carcinogen.

IARC Monographs. Overall Evaluation of Carcinogenicity

Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)	Volume 101 - 2B Possibly carcinogenic to humans.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Volume 77, Volume 101 - 2B Possibly carcinogenic to humans.

US - California Proposition 65 - CRT: Listed date/Carcinogenic substance

1,3-Dichloropropene (CAS 542-75-6)	Carcinogenic.
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9)	Carcinogenic.
Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Carcinogenic.
Formaldehyde (CAS 50-00-0)	Carcinogenic.
Methylene chloride (CAS 75-09-2)	Carcinogenic.

Reproductive toxicity This product is not expected to cause reproductive or developmental effects.

Teratogenicity Not classified.

Specific target organ toxicity - single exposure Not classified.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not available.

Chronic effects Prolonged inhalation may be harmful.

Further information Not available.

Name of Toxicologically Synergistic Products Not available.

12. Ecological Information

Ecotoxicity See below

Components		Species	Test Results
Ethanol, 2,2''-iminobis- (CAS 111-42-2)			
Algae	IC50	Algae	7.8 mg/L, 72 Hours
Crustacea	EC50	Daphnia	55 mg/L, 48 Hours
Aquatic			
Fish	LC50	Fathead minnow (Pimephales promelas)	100 mg/l, 96 hours
Glycerol (CAS 56-81-5)			
Aquatic			
Fish	LC50	Rainbow trout,donaldson trout (Oncorhynchus mykiss)	51000 - 57000 mg/l, 96 hours
Isopropanol (CAS 67-63-0)			
Algae	IC50	Algae	1000 mg/L, 72 Hours
Crustacea	EC50	Daphnia	13299 mg/L, 48 Hours
Aquatic			
Fish	LC50	Bluegill (Lepomis macrochirus)	> 1400 mg/l, 96 hours
Polyethylene glycol (CAS 25322-68-3)			
Aquatic			
Fish	LC50	Atlantic salmon (Salmo salar)	> 1000 mg/l, 96 hours

Persistence and degradability No data is available on the degradability of this product.

Bioaccumulative potential No data available.

Mobility in soil No data available.

Mobility in general 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 in sealed containers at licensed waste disposal site. This material and its container must be disposed of as hazardous waste. 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.

Local disposal regulations Dispose in accordance with all applicable regulations.

Hazardous waste code The waste code should be assigned in discussion between 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 (see: 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. Transport Information

U.S. Department of Transportation (DOT)

Basic shipping requirements:

UN number UN1993
Proper shipping name Flammable liquids, n.o.s. (Isopropanol RQ = 2000 LBS)
Hazard class Limited Quantity - US
Packing group III
Special provisions B1, B52, IB3, T4, TP1, TP29
Packaging exceptions 150

Transportation of Dangerous Goods (TDG - Canada)

Basic shipping requirements:

UN number UN1993
Proper shipping name FLAMMABLE LIQUID, N.O.S. (Isopropanol)
Hazard class Limited Quantity - Canada
Packing group III

IATA/ICAO (Air)

Basic shipping requirements:

UN number UN1993
Proper shipping name Flammable liquid, n.o.s. (Isopropanol)

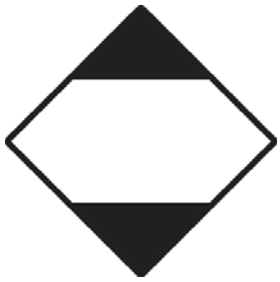
Hazard class Limited Quantity - IATA
Packing group III

IMDG (Marine Transport)

Basic shipping requirements:

UN number UN1993
Proper shipping name FLAMMABLE LIQUID, N.O.S. (Isopropanol)
Hazard class Limited Quantity - IMDG
Packing group III

DOT; IMDG; TDG



IATA

15. Regulatory Information

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

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

Isopropanol (CAS 67-63-0)	1 TONNES

Canada WHMIS Ingredient Disclosure: Threshold limits

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	1 %
Isopropanol (CAS 67-63-0)	1 %

WHMIS status Controlled

WHMIS classification Class B - Division 3 - Combustible Liquid, Class D - Division 2A, 2B

WHMIS labeling

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

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: De minimis concentration

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	1.0 %
Isopropanol (CAS 67-63-0)	1.0 %

US EPCRA (SARA Title III) Section 313 - Toxic Chemical: Listed substance

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Isopropanol (CAS 67-63-0)	Listed.

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

Not regulated.

CERCLA Hazardous Substance List (40 CFR 302.4)

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Isopropanol (CAS 67-63-0)	Listed.

US CAA Section 111 Volatile Organic Compounds: Listed substance

Glycerol (CAS 56-81-5)	Listed.

Isopropanol (CAS 67-63-0) Listed.
Polyethylene glycol (CAS 25322-68-3) Listed.

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

Not regulated.

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

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.

Superfund Amendments and Reauthorization Act of 1986 (SARA)

Hazard categories
Immediate Hazard - Yes
Delayed Hazard - Yes
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	3-7

Other federal regulations

Safe Drinking Water Act (SDWA) Not regulated.

Food and Drug Administration (FDA) Not regulated.

US state regulations WARNING: This product contains a chemical known to the State of California to cause cancer.

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

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Isopropanol (CAS 67-63-0) Listed.

US - California Proposition 65 - Carcinogens & Reproductive Toxicity (CRT): Listed substance

1,3-Dichloropropene (CAS 542-75-6) Listed.
Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9) Listed.
Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Formaldehyde (CAS 50-00-0) Listed.
Methanol (CAS 67-56-1) Listed.
Methylene chloride (CAS 75-09-2) Listed.

US - Illinois Chemical Safety Act: Listed substance

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Isopropanol (CAS 67-63-0) Listed.

US - Louisiana Spill Reporting: Listed substance

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Isopropanol (CAS 67-63-0) Listed.

US - Minnesota Haz Subs: Listed substance

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Glycerol (CAS 56-81-5) Listed.
Isopropanol (CAS 67-63-0) Listed.
Polyethylene glycol (CAS 25322-68-3) Listed.

US - New Jersey RTK - Substances: Listed substance

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Glycerol (CAS 56-81-5) Listed.
Isopropanol (CAS 67-63-0) Listed.

US - New York Release Reporting: Hazardous Substances: Listed substance

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.

US - Texas Effects Screening Levels: Listed substance

Amides, coco, N,N-bis(hydroxyethyl) (CAS 68603-42-9) Listed.
Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Glycerol (CAS 56-81-5) Listed.
Isopropanol (CAS 67-63-0) Listed.
Polyethylene glycol (CAS 25322-68-3) Listed.

US. Massachusetts RTK - Substance List

Ethanol, 2,2''-iminobis- (CAS 111-42-2) Listed.
Glycerol (CAS 56-81-5) Listed.
Isopropanol (CAS 67-63-0) Listed.

US. Pennsylvania RTK - Hazardous Substances

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Glycerol (CAS 56-81-5)	Listed.
Isopropanol (CAS 67-63-0)	Listed.

US. Rhode Island RTK

Ethanol, 2,2''-iminobis- (CAS 111-42-2)	Listed.
Isopropanol (CAS 67-63-0)	Listed.

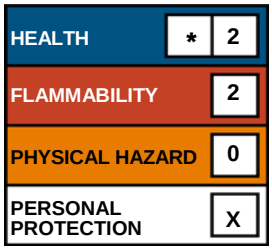
Inventory status

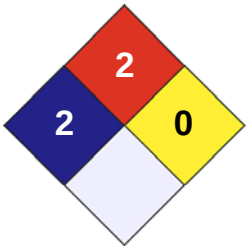
Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	No
Canada	Non-Domestic Substances List (NDSL)	Yes
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

*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





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.

Issue date 20-April-2015

Effective date 20-April-2015

Expiry date 20-April-2018

Further information For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.

Prepared by Nu-Calgon Technical Service Phone: (314) 469-7000

Other information This Safety Data Sheet was prepared to comply with the current OSHA Hazard Communication Standard (HCS) adoption of the Globally Harmonized System of Classification and Labeling of Chemicals (GHS).
This SDS conforms to the ANSI Z400.1/Z129.1-2010 Standard.

Nu-Calgon Wholesaler, Inc.

MATERIAL SAFETY DATA SHEET

SECTION 1 – CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Company Name	Phone Number			CHEMTREC
Nu-Calgon Wholesaler, Inc.	(314) 469-7000 / (800) 554-5499			(800) 424-9300
Street Address	**City**	**State**	**Postal Code**	**Last Update**
2008 Altom Court	St. Louis	MO	63146-4151	4/26/07
Product Name	**Product Number**	**Product Use**		**EPA Registration #**
Gas Leak Detector	4180	Chemical gas leak detector		N/A

SECTION 2 – COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous Ingredients	% By Wt.	CAS Number	TLV	PEL
Isopropanol	5	67-63-0	400ppm	400ppm

SECTION 3 – HAZARD IDENTIFICATION

Emergency Overview: No Data.

Poteutial Health Effects

Eyes: May cause irritation to both eycs and skin.

Skin: May eause irritation to both eyes and skin.

Ingestion: Large quantities may cause upset to stomach.

Inhalation: No Data.

Chronic Exposure: No available information was found.

Carcinogenicity: No Data.

Medical Couditions Aggravated be Exposure: No Data.

SECTION 4 – FIRST AID MEASURES

Eyes: In case of contaet, flush with plenty of water for at least 15 minutes. Call a physician.

Skin: In case of contact, flush with plenty of water for at least 15 minutes. If irritation develops, contaet a physician.

Ingestion: If swallowed, call a physician immediately.

Inhalation: N/A

SECTION 5 – FIREFIGHTING MEASURES

Flash Point: 39°C/102°F

Autoiguition Temp: No Data.°C/No Data.°F

Hazardous Products of Combustion: No Data.

Flammable Limits in Air: None known.

Extinguishing Media: In ease of fire use CO2 foam or dry chemical.

Fire aud Explosion Hazards: None known.

Special Firefighting Procedures: Exercise caution when fighting any chemical fire. Respiratory protection is essential.

SECTION 6 – ACCIDENTAL RELEASE MEASURES

Spill or Leak: Flush spill with water or wipe up and incinerate.

SECTION 7 – HANDLING AND STORAGE

Handling Procedures and Equipment: Avoid contact with eyes, skin and clothing. Keep away from heat and open flame. Wash thoroughly after handling. Read and observe all labeled precautions.

Storage Requirements: Avoid contact with eyes, skin and clothing. Keep away from heat and open flame. Wash thoroughly after handling. Read and observe all labeled precautions.

SECTION 8 – EXPOSURE CONTROLS/PERSONAL PROTECTION

Respiratory Protection: None required

Eye Protection: Avoid eye contact

Protective Clothing: None required.

Exposure Guidelines: No Data.

Specific Engineering Controls (such as ventilation, enclosed process): Normal room ventilation.

SECTION 9 – PHYSICAL AND CHEMICAL PROPERTIES

Physical Form: Liquid	**Freezing Point**: N/A°C/N/A°F	**% Volatile by Weight**: N/A%
Color: Clear	**Vapor Density [air =1]**: Unknown	**Evaporation Rate**: Unknown
Odor: Isopropanol odor	**Vapor Pressure**: Unknown	**Specific Gravity**: 1.10 - 1.15
Boiling Point: Unknown°C/Unknown°F	**Solubility in Water**: Complete	**pH (concentrate)**: N/A

SECTION 10 – STABILITY AND REACTIVITY

Chemical Stability: Stable

Hazardous Polymerization: None known.

Incompatibilities: Can react violently with strong oxidizers.

Reactive Conditions to avoid: Heat and open flame.

Decomposition Products: Unknown.

SECTION 11 – TOXICOLOGICAL INFORMATION

Hazardous Ingredients	CAS #	EINECS #	LD 50 of Ingredient (Specify Species)	LC50 of Ingredient (Specify Species)
Isopropanol	67-63-0		ORAL LD50 5840mg/kg Rat	

SECTION 12 – ECOLOGICAL INFORMATION

Hazardous Ingredients	Aquatic Toxicity Data
No Data.	

SECTION 13 – DISPOSAL CONSIDERATIONS

Waste Disposal: Flush product waste down drain with plenty of water, rinse container and discard.

SECTION 14 – TRANSPORTATION INFORMATION

Special Shipping Information: Not regulated.

Purview	Proper Shipping Name	UN Number	Packing Group	Hazard Class
DOT (Land)	Not Regulated.			
IMO (Water)	No Data.			
ICAO (Air)	No Data.			

SECTION 15 – REGULATORY INFORMATION

WHMIS Classification: (Workplace Hazardous Material Information System)	B3
SARA Title III: (Superfund Amendments & Reauthorization Act)	No Data.
OSHA: (Occupational Safety & Health Administration)	No Data.
TSCA: (Toxic Substance Control Act)	All ingredients are TSCA listed.
VOC: (volatile Organic Compounds)	No Data.
CPR: (Canadian Controlled Products Regulations)	This product has been elassified in accordance with the hazard criteria of the Controlled Products Regulations.
EINECS: (European Inventory of Existing Commercial Chemical Substanees)	No Data.
DSL / NDSL: (Canadian Domestic Substance List)(Non-Domestic Substance List)	No Data.
CERCLA: (Comprehensive Response Compensation & Liability Act)	No Data.
IDL: (Canadian Ingredient Disclosure List)	No Data.
NFPA (HMIS) Ratiug: (Hazardous Materials Identification System)	Health Hazard.....: 0 Fire Hazard.....: 2 Reaetivity.....: 0 Specific Hazard...:X

SECTION 16 – OTHER INFORMATION

No Data.

The information contained herein is based ou the data available to us and is believed to be correct. However, Nu-Calgon Wholesaler Inc. makes no warranty, expressed, or implied, regarding the accuracy of this data or the results to be obtained from the use thereof. Nu-Calgon Wholesaler Inc. assumes no liability for injury from the use of the product described herin.