SAFETY DATA SHEET

1. Identification

Product Identifier	**Ethanol 95%**
Other Means of identification	Denatured Ethanol: Ethyl Alcohol denatured with Isopropanol and Denatonium Benzoate
Recommended use and restrictions	As a solvent for use in cleaning solutions, cosmetics for external use, disinfectants, industrial detergents and soaps, inks, photographic films and emulsions, polishes, solvents and thinners, preserving solutions, dye intermediates, dyes, perfume materials and fixatives.
Supplier	maxill inc. 80 Elm Street St. Thomas, ON N5R 6C8 CA Phone: 519-631-7370 Fax: 519-531-3388 Website: maxill.com
Emergency Response Number	ChemTel 1-800-255-3924, outside US and Canada, 1-813-248-0585 CANUTEC: 1-888-CAN-UTEC (226-8832)

2. Hazard identification

Physical hazards	Flammable liquids	Category 2
Health hazards	Eye irritation	Category 2B
	Skin irritation	Category 2
	Specific target organ toxicity - single exposure	Category 3

Label elements



Signal word

Danger

Hazard statements

Highly flammable liquid and vapor.

Causes skin and eye irritation

May cause respiratory irritation. May cause drowsiness or dizziness.

Precautionary statement

Prevention

Keep away from heat, sparks, open flames, and hot surfaces. No smoking.

Keep container tightly closed.

Ground/bond container and receiving equipment.

Use explosion-proof electrical, ventilating, and lighting equipment.

Use only non-sparking tools.

Take precautionary measures against static discharge.

Wash hands thoroughly after handling.

Wear protective gloves and eye and face protection.

Response	IF ON SKIN: Remove immediately all contaminated clothing. Rinse skin with water. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention. If eye irritation persists: Get medical attention. In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
Storage	Store in a well-ventilated place. Keep cool.
Disposal	Dispose of contents and container in accordance with local/regional/national/ international regulations.

Potential health effects

Eyes	Can cause eye irritation. Common symptoms include stinging, tearing, and redness.
Ingestion	May cause dizziness, faintness, drowsiness, decreased awareness and responsiveness, euphoria, abdominal discomfort, nausea, vomiting, staggering gait, lack of coordination and coma.
Inhalation	High vapour concentrations may cause a burning sensation in the throat and nose, stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may occur.
Skin	Mild irritant. Repeated or prolonged exposure may lead to dermatitis, erythema and scaling.
Chronic	Effects of Repeated Overexposure: Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. Other Health Hazards: Repeated ingestion of ethanol by pregnant mothers has been shown to adversely affect the development of the fetal central nervous system and progression of fetal alcohol syndrome. Medical Conditions Aggravated by Overexposure: Repeated exposure to ethanol may aggravate previous liver condition. Skin contact may aggravate dermatitis.
Other hazards which do not result in classification	Not available.

3. Composition/information on ingredients

Mixture

Chemical Name	Common name and synonyms	CAS number	% Volume
Ethyl Alcohol	Ethanol	64-17-5	60 – 100
Isopropyl Alcohol	Isopropanol	67-63-0	3 – 7

Contains 7 ppm Denatonium Benzoate.

4. First-aid measures

Inhalation	Remove victim to fresh air. Artificial respiration should be given if breathing has stopped and cardiopulmonary resuscitation if heart has stopped. Oxygen may be given if necessary. Seek medical attention immediately.
Skin Contact	Flush contaminated area with water for at least 20 minutes. Remove contaminated clothing under running water. Completely decontaminate clothing before re-use, or discard. If irritation occurs seek medical attention.
Eye Contact	Immediately flush eyes with water for at least 20 minutes, holding the eyelids open. Seek medical attention immediately.
Ingestion	Do not induce vomiting. Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. Have victim drink about 250 mL (8 fl. oz.) of water to dilute material in stomach. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Seek medical assistance immediately.
Most important symptoms/effects, acute and delayed	Alcohol intoxication will cause dizziness, incoherence, and nausea.
Indication of immediate medical attention and special treatment needed	Symptoms of ethanol intoxication vary with the alcohol level of the blood. mild alcohol intoxication occurs at blood levels between 0.05% - 0.15% and approximately 25% of individuals will show signs of intoxication at these levels. Above 0.15% the person is definitely under the influence of ethanol and 50 - 95% of individuals at this level are clinically intoxicated. Severe poisoning occurs when the blood ethanol level is 0.30 - 0.50%. Above 0.50% the individual will be comatose and death can occur. The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs or the excessive administration of fluids.

5. Fire-fighting measures

Suitable extinguishing media	Apply alcohol-type or all-purpose-type foams by manufacturers' recommended techniques for large fires. Use carbon dioxide or dry chemical media for small fires. Water is generally unsuitable for large open pools of alcohol and may help to spread the fire.
Unusual Fire and Explosion Hazards	Vapours form from this product and may travel or be moved by air currents and ignited by pilot lights, other flames, sparks, heaters, electrical equipment, static discharges or other ignition sources at locations distant from handling point.
Special Fire-Fighting Procedures	Use water spray to cool fire-exposed containers and structures. Use water spray to disperse vapours; reignition is possible. Use self-contained breathing apparatus and protective clothing.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Keep unnecessary personnel away. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). 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. Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water. Clean surface thoroughly to remove residual contamination. For waste disposal, see section 13 of the SDS.

Environmental precautions	Do not discharge into lakes, streams, ponds, or public waters.

7. Handling and storage

Precautions for safe handling	Keep away from heat, sparks and flames. Keep container closed when not in use. Use with adequate ventilation. Avoid breathing vapours. Avoid contact with eyes and skin. Wash exposed skin thoroughly after handling. Take precautions to prevent static electricity build-up when transferring contents.
Conditions for safe storage	Keep away from heat, sparks, and open flame. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store away from incompatible materials (see Section. 10.)

8. Exposure controls/personal protection

Respiratory equipment	Up to 1000 ppm, an approved organic vapour cartridge respirator can be used. For concentrations above 1000 ppm, an air-supplying respirator is recommended. The user should consult a respirator guide, such as the Canadian Standards Association's guide Z94.4-M1982.
Appropriate engineering controls	The ventilation system should be non-sparking, grounded and separate from other exhaust ventilation systems. Local ventilation is recommended when handling.
Protective gloves	Neoprene, butyl or natural rubber.
Eye protection	Chemical resistant goggles when handling.
Other protective equipment	Eye bath, safety shower and other protective equipment as required.
Thermal hazards	Not applicable.

9. Physical and chemical properties and safety characteristics

Appearance	Colorless liquid	
Odor	Typical lower alcohol odor	
Odor threshold	Approximately 0.1 to 5100 ppm for ethyl alcohol and 40 to 200 ppm for isopropyl alcohol, as reported in appendix 1 of the Canadian Standards Association guide Z94.4-M1982.	
pH	Not applicable.	
Melting point/freezing point	Approx. minus 100 deg. C	
Boiling point range	Approximately 78 to 83 deg. C	
Flash point	13 (Tag closed cup, ASTM D-56)	
Evaporation rate	1.7 (butyl acetate = 1)	
Upper/lower flammability or explosive limits		
Flammability limit - lower (%)	3.3% V/V for 100% Ethanol, 2.5% V/V for 100% Isopropyl alcohol	
Flammability limit - upper (%)	19 % V/V for 100% Ethanol, 12 % V/V for 100% Isopropyl alcohol	
Vapor pressure	5.87 KPA @ 20 deg. C, for 100% Ethanol, 4.26 KPA @ 20 deg. C for 100% IPA	
Vapor density	1.61 (air=1)	
Relative density (liquid)	0.7882 @ 20 deg. C	
Solubility in water	Complete	
Solubility in oil	Separates from oil	
Partition coefficient	N-octanol/water 0.032 approx.	
Auto-ignition temperature	Approx. 370 deg. C	
Decomposition temperature	Specific data not available	
Viscosity	Approx. 1.35 cp @ 20 deg. C	
% Volatiles by volume	100	
Chemical Formula	Ethanol: C2-H5-OH	Molecular weight: 46.07
	Isopropyl Alcohol: CH3-CHOH-CH3	Molecular weight: 60.9
	Water: H2O	Molecular weight :18.02

10. Stability and reactivity

Possibility of hazardous reactions	Oxidizing materials
Chemical stability	Stable
Conditions to avoid	Sources of ignition
Hazardous combustion/ decomposition products	Burning can produce carbon monoxide and/or carbon dioxide
Reactivity	This product may react with strong oxidizing agents.
Incompatible materials	Strong oxidizing agents. Acids.

11. Toxicological information

Routes of exposure	Eye, Skin contact, Inhalation, Ingestion
Information on likely routes of exposure	
Ingestion	May cause dizziness, faintness, drowsiness, decreased awareness and responsiveness, euphoria, abdominal discomfort, nausea, vomiting, staggering gait, lack of coordination and coma.
Skin absorption	No adverse effects with normal skin. However, potentially harmful amounts of material may be absorbed across markedly abraded skin when contact is sustained, particularly in children.
Inhalation	High vapour concentrations may cause a burning sensation in the throat and nose, stinging and watering in the eyes. At concentrations which cause irritation, dizziness, faintness, drowsiness, nausea and vomiting may occur.
Skin contact	Mild irritant. Repeated or prolonged exposure may lead to dermatitis, erythema and scaling.
Eye contact	Severe eye irritant. Vapours can irritate eyes. Eye damage from contact with liquid is reversible and proper treatment will result in healing within a few days. Damage is usually mild to moderate conjunctivitis, seen mainly as redness of the conjunctiva.
Symptoms related to the physical, chemical and toxicological characteristics	May cause drowsiness and dizziness. Headache. Nausea. Vomiting. Causes serious eye irritation. Symptoms may include stinging, tearing, redness, swelling and blurred vision.
Effect of long-term exposure	Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis.
Medical conditions aggravated by overexposure	Repeated exposure to ethanol may exacerbate liver injury produced from other causes.
Other - reproductive toxicity of ethanol when consumed as a beverage during pregnancy	Ethanol has been identified in studies as a developmental toxicant when consumed as a beverage during pregnancy.
Information on toxicological effects	
Acute toxicity	

Ethyl Alcohol	Skin	LD50 - Rabbit - 20,000 mg/kg
	Respiratory	LC50 - Rat - 31,623 ppm/4h.
	Ingestion	LD50 - Rat - 7,060 mg/kg
Isopropyl Alcohol	Skin	LD50 - Rabbit - 13,000 mg/kg
	Respiratory	LC50 - Rat - 16,970 ppm/4h.
	Ingestion	LD50 - Rat - 4,420 mg/kg

12. Ecological information

Ecotoxicity	See below
Ecotoxicological data	
Ethyl Alcohol CAS 64-17-5	
Acute fish toxicity	LC50 / 96 HOUR Oncorhynchus mykiss (rainbow trout) > 10,000 mg/L
	LC50 / 96 HOUR Pimephales promelas (fathead minnow) > 13,400 mg/L
Toxicity to aquatic plants	Growth inhibition / 96 HOURS Chlorella vulgaris (Fresh water algae) 1,000 mg/L
Toxicity to microorganisms	Toxicity Threshold / Pseudomonas putida 6,500 mg/L
	Summary: Inhibition of cell multiplication begins.
Persistence and degradability	Biodegradation is expected.
Biaccumulative potential	Biaccumulation is unlikely.
Other adverse effects	BOD: 740-840 mg/g
Isopropyl Alcohol CAS 67-63-0	
Acute fish toxicity	LC50 / 96 hours Pimephales promelas: 9,640 mg/L
Toxicity to aquatic plants	EC50 / 72 hours Scenedesmus subspicatus > 1,000 mg/L
Toxicity to microorganisms	EC50 / 3 hours Activated sludge > 1,000 mg/L
Persistence and degradability	Readily biodegradable (77% degraded in 10 days). Expected to be hydrolytically stable, but rapidly degraded following atmospheric releases.
Biaccumulative potential	Bioconcentration factor (BCF) of 3.16. (Predicted bioconcentration factor). Significant bioaccumulation is not expected based on predicted BCF of 3.16.

13. Disposal considerations

Spill	Contain spilled material. Provide adequate ventilation and protective equipment. Remove sources of heat, sparks or flames. Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal.
Waste disposal	Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all federal, provincial/state and local government regulations.

14. Transport information

CANADA: UN number	1987
UN proper shipping name	ALCOHOLS, N.O.S. (Ethanol)
Transport hazard class(es)	Primary Class 3
Packing group (if applicable)	II
IMDG	UN-Number: UN1987 Class: 3 Packing Group: II
	EMS-No: F-E, S-D
	Proper shipping name: ALCOHOLS, N.O.S. (ETHANOL, ISOPROPANOL)
Marine Pollutant	No
IATA	UN-Number: 1987 Class: 3 Packing Group: II
	Proper shipping name: Alcohols, N.O.S. (ETHANOL, ISOPROPANOL)



15. Regulatory information

All ingredients are on the following inventories or are exempted from listing:

Country Notification

Australia	AICS
Canada	DSL
China	IECS
European Union	EINECS
Japan	ENCS/ISHL
Korea	ECL
New Zealand	NZIoC
Philippines	PICCS
USA	TSCA
California Prop 65 Components	WARNING! This product contains a chemical known to the State of California to cause birth defects or other reproductive harm when drunk as a beverage: (ETHYL ALCOHOL) CAS No. 64-17-5 Revision Date: December 11, 2009

16. Other information

Issue date	2021-04-27
Version #	02
Effective date	2021-04-27
Other information	For an updated SDS, please contact the supplier/manufacturer listed on the first page of the document.
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.