SECTION 1– IDENTIFICATION OF SUBSTANCE AND OF SUPPLIER

PRODUCT NAME: ETHANOL

CHEMICAL FAMILY: Alcohols, esters

RECOMMENDED USE: General purpose organic solvent, printing inks, protective and decorative coatings, resins etc.

RESTRICTIONS ON USE: Refer to the alcohol control authority in country in which the product is to be used– Canada Revenue Agency (Excise) in Canada, US Tax and Trade Bureau in US etc.

SUPPLIER: LEMBEX IMPORT INC.

258 RUE COMMERCIALE

ST-HENRI, QC, CANADA, G0R 3E0

NON-EMERGENCY INFORMATION PHONE NUMBER: (418) 895-6333

EMERGENCY PHONE NUMBER: CANUTEC (613) 996-6666

SECTION 2– HAZARDS IDENTIFICATION

GHS label elements, including precautionary statements:

Signal Word:
DANGER!

Hazard statement(s)

H225	Highly flammable liquid and vapor.
H315 + H320	Causes skin and eye irritation
H335	May cause respiratory irritation.
H370	May cause damage to organs.

(SECTION 2 HAZARDS IDENTIFICATION CONTINUED)

Precautionary statement(s)

Do not handle until all safety precautions have been read and understood.
Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
Keep container tightly closed.
If eye irritation persists, get medical attention.
Use explosion-proof electrical, ventilating, and lighting equipment.
Use only non– sparking tools.
Take precautionary measures against static discharge.
Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
Wash hands after handling.
Wear protective gloves and eye and face protection.
IF ON SKIN (or hair): 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.
In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.
Store in a well ventilated place.
Dispose of contents and container to an approved waste disposal plant.

GHS Classification(s)

Flammable Liquids (Category 2)
Eye irritation (Category 2B)
Skin irritation (Category 2)
Specific target organ toxicity - single exposure (Category 3)

Other hazards which do not result in classification:

Potential health Effects:

Organ	Description
Eyes	Causes irritation to the eyes. Can cause painful sensitization to light. Can cause a form of chemical conjunctivitis and cause corneal damage.
Ingestion	Can cause gastrointestinal irritation with nausea, vomiting and diarrhea. Systemic toxicity and acidosis can occur. Advanced stages can lead to respiratory failure,, kidney failure, coma and death.
Inhalation	Causes respiratory tract irritation. Can cause narcotic effects in high concentration. Vapors may cause dizziness or suffocation. Systemic toxicity and acidosis can occur. Advanced stages can lead to respiratory failure,, kidney failure, coma and death.
Skin	Causes moderate skin irritation. Can cause dermatitis by de-fatting the skin from prolonged or repeated contact.
Chronic	Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. 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.

SECTION 3– COMPOSITION AND INFORMATION ON INGREDIENTS

CHEMICAL NAME: ETHANOL

INGREDIENT	% VOLUME	CAS NO.	EINECS NO.
Ethyl Alcohol	90.0	64-17-5	200-578-6
Isopropyl Alcohol	7.0	67-63-0	200-661-7
Ethyl Acetate	3.0	141-78-6	205-500-4
Water	balance	7732-18-5	231-791-2

SECTION 4– FIRST AID MEASURES

INGESTION	• Never give anything by mouth if victim is rapidly losing consciousness or is unconscious or convulsing. • DO NOT INDUCE VOMITING. • Have victim drink about 250ml (8fl. 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.
SKIN	• 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.
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.
EYES	• Immediately flush eyes with water for at least 20 minutes, holding the eyelids open. • Seek medical attention immediately.
NOTES TO PHYSICIAN	• 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 0.3-0.5%. Above 0.05% 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. • This product contains 7% v/v of Isopropyl Alcohol and 3.0% v/v of ethyl acetate..

SECTION 5– FIRE FIGHTING MEASURES

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 FIREFIGHTING 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.

SECTION 6– ACCIDENTAL RELEASE MEASURES

SPILL	• Contain spilled material. • Provide adequate ventilation. Provide adequate personnel protective equipment for responders. • Remove sources of heat, sparks or flames. • Spill should be collected in suitable containers or absorbed on a suitable absorbent material for subsequent disposal. Such containers used to contain spilled material and absorbent should be sealed off, otherwise the collected alcohol will evaporate from them.
WASTE DISPOSAL	• Waste material should be disposed of in an approved incinerator or in a designated landfill site, in compliance with all applicable federal, provincial and local government regulations.

SECTION 7– HANDLING AND STORAGE

PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING	• 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.
OTHER PRECAUTIONS	• Good personal hygiene practices are suggested, such as abstaining from eating, drinking and smoking in the workplace.

SECTION 8– EXPOSURE CONTROLS/ PERSONNEL 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.
VENTILATION	• 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 monogoggles when handling
OTHER PROTECTIVE EQUIPMENT	• Eye bath, safety shower and other protective equipment as required.

SECTION 9– PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colourless liquid
ODOUR	Typical lower alcohol with ester (ethyl acetate) odour.
ODOUR THRESHOLD	Approximately 0.1-5100 ppm for ethanol, 40 TO 200 ppm for Isopropyl alcohol and 0.056 ppm for ethyl acetate, as reported in Appendix 1 of the Canadian Standards Association guide Z94.4-M-1982.
pH	Not Applicable
MELTING./ FREEZING POINT	Approx. minus 115 deg. C
BOILING POINT RANGE	Approximately 72 to 83 deg. C.
FLASH POINT	13 (Tag closed cup, ASTM D-56)
EVAPORATION RATE	1.8 (butyl acetate = 1)
LOWER FLAMMABILITY LIMIT	3.3% V/V for Ethanol, 2.5% V/V for Isopropyl alcohol, 2.2% V/V for Ethyl acetate
UPPER FLAMMABILITY LIMIT	19 % V/V for Ethanol, 12% V/V for Isopropyl alcohol, 11.5% V/V for Ethyl acetate
VAPOR PRESSURE	5.87 KPA @ 20 C, for Ethanol, 4.26 for Isopropyl Alcohol, 9.73 for Ethyl Acetate
VAPOUR DENSITY	1.66 (air=1)
RELATIVE DENSITY (LIQUID)	0.7915 @ 20^{o}C
SOLUBILITY IN WATER	Complete
SOLUBILITY IN OIL- COEFFICIENT OF WATER/OIL DISTRIBUTION	Separates from oil
PARTITION COEFFICIENT N– OCTANOL/ WATER	0.032 approx.
AUTO- IGNITION TEMPERATURE	Approx. 422 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 Isopropanol: CH3-CHOH-CH3 Molecular weight: 60.09 Ethyl Acetate: CH3-CO2-C2H5 Molecular weight: 88.1 Water: H2O Molecular weight :18.02

SECTION 10– STABILITY AND REACTIVITY

CHEMICAL STABILITY/ REACTIVITY	Stable
CONDITIONS TO AVOID	Sources of ignition
POSSIBILITY OF HAZARDOUS REACTIONS/ INCOMPATIBILITIES	Oxidizing materials
HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS	Burning can produce carbon monoxide and/or carbon dioxide and/or formaldehyde.
HAZARDOUS POLYMERIZATION	Will not occur
CONDITIONS TO AVOID	None currently known

SECTION 11– TOXICOLOGICAL INFORMATION

INGREDIENT	% V/V	TLV, ppm	LC50, ppm/4h.	LD50, mg/kg	LD50, mg/kg
			RAT, INHAL.	RAT, ORAL	RABBIT, SKIN
Ethyl Alcohol	85.1	1000	31,623	7,060	20,000
Isopropyl Alcohol	7.0	400	16,970	4,420	13,000
Ethyl Acetate	3.0	400	22,627	11,300	180,000
Water	Balance	NA	NA	NA	NA

REFERENCES: ACGIH (1988-1989), RTECS (1983).

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	• No evidence of adverse effects from available information.
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.
EFFECTS OF REPEATED OVEREXPOSURE	• Long term repeated oral exposure to ethanol may result in the development of progressive liver injury with fibrosis. • Long term exposure to methanol has been associated with headaches, giddiness, conjunctivitis, • insomnia and impaired vision • Ethyl acetate is of relatively low toxicity.
MEDICAL CONDITIONS AGGRAVATED BY OVEREXPOSURE	• Repeated exposure to ethanol may exacerbate liver injury 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.

SECTION 12– ECOLOGICAL INFORMATION

Ethyl Alcohol CAS 64-17-5

Ecotoxicity (aquatic and terrestrial, where available):
Acute Fish toxicity (ETHANOL)
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 (ETHANOL)
Growth inhibition / 96 HOURS Chlorella vulgaris (Fresh water algae) 1,000 mg/l
Toxicity to microorganisms (ETHANOL)
Toxicity Threshold / Pseudomonas putida 6,500 mg/l
Summary: Inhibition of cell multiplication begins.
Persistence and degradability:
Biodegradation is expected.
Bioaccumulative potential:
Biaccumulation is unlikely
Other adverse effects:
BOD: 740-840 mg/g

Isopropyl Alcohol CAS 67-30-60

Ecotoxicity (aquatic and terrestrial, where available):
Acute Fish Toxicity (ISOPROPANOL)
LC50 / 96 hours Pimephales promelas: 9,640 mg/L

Toxicity to Aquatic Plants (ISOPROPANOL)
EC50 / 72 hours Scenedesmus subspicatus > 1,000 mg/L

Toxicity to Microorganisms (ISOPROPANOL)
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.

Ethyl Acetate CAS 141-78-6

Ecotoxicity (aquatic and terrestrial, where available):
Acute Fish Toxicity (ETHYL ACETATE)
LC50 / 96 hours Fathead Minnow 230mg/L
Persistence and degradability:
No data available
Bioaccumulative potential:
No data available

SECTION 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 and local government regulations.

SECTION 14– TRANSPORT INFORMATION

CANADA: UN number: 1987
UN proper shipping name Alcohols, N.O.S. (ETHANOL)
Transport hazard class(es) Primary Class 3 subsidiary Class NONE
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, ETHYL ACETATE)
Marine pollutant: No
IATA
UN-Number: 1987 Class: 3 Packing Group: II
Proper shipping name: Alcohols, N.O.S. (ETHANOL, ISOPROPANOL, ETHYL ACETATE)

SECTION 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

SECTION 16– OTHER INFORMATION

PREPARED BY: Technical Services

PHONE NUMBER: (418) 895-6333

DATE: September 7, 2017

LEMBEX IMPORT URGES EACH CUSTOMER OR RECIPIENT OF THIS MSDS TO STUDY IT CAREFULLY TO BECOME AWARE OF AND UNDERSTAND THE HAZARDS ASSOCIATED WITH THE PRODUCT. THE READER SHOULD CONSIDER CONSULTING REFERENCE WORKS OR INDIVIDUALS WHO ARE EXPERTS IN VENTILATION, TOXICOLOGY OR FIRE PREVENTION, AS NECESSARY OR APPROPRIATE TO USE AND UNDERSTAND THE DATA CONTAINED IN THIS MSDS.

TO PROMOTE SAFE USE AND HANDLING OF THIS PRODUCT, EACH CUSTOMER OR RECIPIENT SHOULD
(1) NOTIFY EMPLOYEES, AGENTS, CONTRACTORS AND OTHERS WHO MAY USE THIS MATERIAL, OF THE INFORMATION IN THIS MSDS AND ANY OTHER INFORMATION REGARDING HAZARDS OR SAFETY,
(2) FURNISH THIS SAME INFORMATION TO EACH CUSTOMER FOR THE PRODUCT, AND
(3) REQUEST CUSTOMERS TO NOTIFY THEIR EMPLOYEES, CUSTOMERS,
AND OTHER USERS OF THE PRODUCT OF THIS INFORMATION.