

PRODUCT NAME: **ISOPROPYL ALCOHOL**
MSDS NO: **6010**

PAGE 1 OF 9
EFFECTIVE DATE: August 10, 2018

SECTION 1– IDENTIFICATION OF SUBSTANCE AND OF SUPPLIER

PRODUCT NAME: ISOPROPYL ALCOHOL

SYNONYMS: 2– propanol, dimethyl carbinol, isopropanol, IPA

CHEMICAL FAMILY: Alcohols

RECOMMENDED USE: General purpose organic solvent, printing, pharmaceuticals, resins, etc.

RESTRICTIONS ON USE:

SUPPLIER: **Greenfield Global Inc.**
6985 Financial Drive, Mississauga, Ontario, Canada L5N 0G3
Web page: <http://www.greenfield.com/>

NON-EMERGENCY INFORMATION PHONE NUMBER: (905) 790-7500

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.
H319 Causes serious eye irritation
H336 May cause drowsiness or dizziness.

Precautionary statement(s)

P501 Dispose of contents and container to an approved waste disposal plant.
P240 Ground/bond container and receiving equipment.
P337 + P313 If eye irritation persists: Get medical attention.

THE INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN ARE BASED UPON DATA BELIEVED TO BE CORRECT. HOWEVER, NO GUARANTEE OR WARRANTY OF ANY KIND, EXPRESSED OR IMPLIED, IS MADE WITH RESPECT TO INFORMATION AND RECOMMENDATIONS CONTAINED HEREIN.



PRODUCT NAME: **ISOPROPYL ALCOHOL**
MSDS NO: **6010**

PAGE 2 OF 9
EFFECTIVE DATE: August 10, 2018

(SECTION 2 HAZARDS IDENTIFICATION CONTINUED)

- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Seek medical attention.
- P304 + P330 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
- P303 + P361 + P353 IF ON SKIN (or hair): Remove immediately all contaminated clothing. Rinse skin with water.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction.
- P210 Keep away from heat, sparks, open flames, and hot surfaces. No smoking.
- P233 Keep container tightly closed.
- P403 + P235 Store in a well-ventilated place. Keep cool.
- P243 Take precautionary measures against static discharge.
- P241 Use explosion-proof electrical, ventilating, and lighting equipment.
- P242 Use only non-sparking tools.
- P264 Wash hands thoroughly after handling.
- P280 Wear protective gloves and eye and face protection.

GHS Classification(s)

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

Other hazards which do not result in classification:

Potential health Effects:

<u>INGESTION</u>	<ul style="list-style-type: none"> • Ingestion of isopropanol may cause drowsiness, gastrointestinal pain, cramps, nausea, vomiting and diarrhoea; unconsciousness and death may follow massive exposures.
<u>SKIN ABSORPTION</u>	<ul style="list-style-type: none"> • 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.
<u>INHALATION</u>	<ul style="list-style-type: none"> • Mild irritation of the upper respiratory tract may begin at approximately 400 ppm. • High concentrations may cause drowsiness, lack of coordination and deep narcosis.
<u>SKIN CONTACT</u>	<ul style="list-style-type: none"> • Mild irritant. • Repeated or prolonged exposure may lead to drying and cracking.
<u>EYE CONTACT</u>	<ul style="list-style-type: none"> • Severe eye irritant. • Isopropanol vapours can irritate eyes beginning at approximately 400 ppm. • 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.



PRODUCT NAME: **ISOPROPYL ALCOHOL**
MSDS NO: **6010**

PAGE 3 OF 9
EFFECTIVE DATE: August 10, 2018

SECTION 3– COMPOSITION AND INFORMATION ON INGREDIENTS

CHEMICAL NAME: ISOPROPYL ALCOHOL
COMMON NAME/ SYNONYM: 2– propanol, dimethyl carbinol, isopropanol, IPA

INGREDIENT	% VOLUME	CAS NO.	EINECS NO.
Isopropanol	100 approx.	67-63-0	200-661-7

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.

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

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.



PRODUCT NAME: **ISOPROPYL ALCOHOL**
MSDS NO: **6010**

PAGE 4 OF 9
EFFECTIVE DATE: August 10, 2018

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 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.

PRODUCT NAME: **ISOPROPYL ALCOHOL**
 MSDS NO: **6010**

 PAGE 5 OF 9
 EFFECTIVE DATE: August 10, 2018

SECTION 9– PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE	Colourless liquid
ODOUR	Typical lower alcohol odour
ODOUR THRESHOLD	Approximately 40 to 200 ppm according to the Canadian Centre for Occupational Health and Safety.
PH	Not Applicable
MELTING./ FREEZING POINT	Approximately minus 89 deg. C
BOILING POINT RANGE	81.3-83. Boiling point: approx. 82.0 deg. C
FLASH POINT	12 (Tag closed cup, ASTM D-56)
EVAPORATION RATE	2.3 (butyl acetate = 1)
LOWER FLAMMABILITY LIMIT	2.5% V/V
UPPER FLAMMABILITY LIMIT	12 % V/V
VAPOR PRESSURE	4.4 KPA @ 20 deg. C, for 100% isopropyl alcohol
VAPOUR DENSITY	2.07 (air=1)
RELATIVE DENSITY (LIQUID)	0.786 @ 20°C
SOLUBILITY IN WATER	Complete
SOLUBILITY IN OIL- COEFFICIENT OF WATER/OIL DISTRIBUTION	Separates from oil
AUTO- IGNITION TEMPERATURE	Approx. 399 deg. C
% VOLATILES BY VOLUME	100
CHEMICAL FORMULA	Isopropanol: CH ₃ -CHOH-CH ₃ Molecular weight: 60.09

SECTION 10– STABILITY AND REACTIVITY

<u>STABILITY</u>	<ul style="list-style-type: none"> • Stable
<u>CONDITIONS TO AVOID</u>	<ul style="list-style-type: none"> • Sources of ignition
<u>INCOMPATIBILITY</u>	<ul style="list-style-type: none"> • Oxidizing materials
<u>HAZARDOUS COMBUSTION OR DECOMPOSITION PRODUCTS</u>	<ul style="list-style-type: none"> • Carbon dioxide and/or carbon monoxide.
<u>HAZARDOUS POLYMERIZATION</u>	<ul style="list-style-type: none"> • Will not occur
<u>CONDITIONS TO AVOID</u>	<ul style="list-style-type: none"> • None currently known

PRODUCT NAME: **ISOPROPYL ALCOHOL**
 MSDS NO: **6010**

 PAGE 6 OF 9
 EFFECTIVE DATE: August 10, 2018

SECTION 11– TOXICOLOGICAL INFORMATION

INGREDIENT	% V/V	TLV, ppm	LC50, ppm/4h.	LD50, mg/kg	LD50, mg/kg
			RAT, INHAL.	RAT, ORAL	RABBIT, SKIN
Isopropanol	100 approx.	400	16,970	4,420	13,000

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

Other Hazards

<u>INGESTION</u>	<ul style="list-style-type: none"> Ingestion of isopropanol may cause drowsiness, gastrointestinal pain, cramps, nausea, vomiting and diarrhoea; unconsciousness and death may follow massive exposures.
<u>SKIN ABSORPTION</u>	<ul style="list-style-type: none"> 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.
<u>INHALATION</u>	<ul style="list-style-type: none"> Mild irritation of the upper respiratory tract may begin at approximately 400 ppm. High concentrations may cause drowsiness, lack of coordination and deep narcosis.
<u>SKIN CONTACT</u>	<ul style="list-style-type: none"> Mild irritant. Repeated or prolonged exposure may lead to drying and cracking.
<u>EYE CONTACT</u>	<ul style="list-style-type: none"> Severe eye irritant. Isopropanol vapours can irritate eyes beginning at approximately 400 ppm. 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.



PRODUCT NAME: **ISOPROPYL ALCOHOL**
MSDS NO: **6010**

PAGE 7 OF 9
EFFECTIVE DATE: August 10, 2018

SECTION 12– ECOLOGICAL INFORMATION

Isopropyl Alcohol CAS 67-63-0

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)

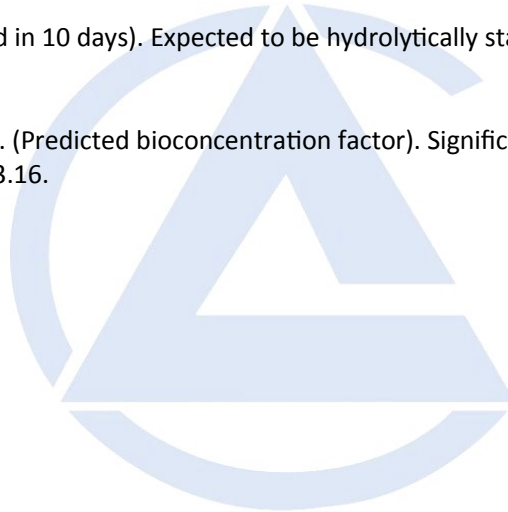
EC50 / 3 hours Activated sludge > 1,000 mg/L

Persistence and degradability:

Readily biodegradable (77% degraded in 10 days). Expected to be hydrolytically stable, but rapidly degraded following atmospheric releases.

Bioaccumulative potential:

Bioconcentration factor (BCF) of 3.16. (Predicted bioconcentration factor). Significant bioaccumulation is not expected based on predicted BCF of 3.16.





PRODUCT NAME: **ISOPROPYL ALCOHOL**
MSDS NO: **6010**

PAGE 8 OF 9
EFFECTIVE DATE: August 10, 2018

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: 1219
UN proper shipping name ISOPROPANOL
Transport hazard class(es) Primary Class 3 Subsidiary Class: NONE
Packing group (if applicable) II

IMDG

UN-Number: UN 1219 Class: 3 Packing Group: II
EMS-No: F-E, S-D
Proper shipping name: ISOPROPANOL
Marine pollutant: No

IATA

UN-Number: 1219 Class: 3 Packing Group: II
Proper shipping name: ISOPROPANOL

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

Not applicable



PRODUCT NAME: **ISOPROPYL ALCOHOL**
MSDS NO: **6010**

PAGE 9 OF 9
EFFECTIVE DATE: August 10, 2018

SECTION 16– OTHER INFORMATION

PREPARED BY: Alcohol QA, Technical Services, and Regulatory Affairs Department

PHONE NUMBER: (905) 790-7500



GREENFIELD GLOBAL 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.