

SAFETY DATA SHEET

1. Identification

| | | |
|---|---|--|
| Product identifier | Isopropyl Alcohol 99% | |
| Other means of identification | | |
| CAS number | 67-63-0 | |
| Synonyms | Dimethyl carbinol, IPA, 2-Propanol, Isopropanol | |
| Recommended use | Rubbing alcohol. General purpose solvent. | |
| Recommended restrictions | Refer to the alcohol control authority in which the product is to be used - Canada Revenue Agency (Excise) in Canada, US Tax and Trade Bureau in the US, etc. | |
| Manufacturer/Importer/Supplier/Distributor information | | |
| Company name | Greenfield Global Inc. | |
| Address | 6985 Financial Drive Mississauga, Ontario L5N 0G3 Canada | |
| Telephone | (905) 790-7500 | |
| Website | http://www.greenfield.com | |
| Emergency phone number | CHEMTREC: 1-800-424-9300 | |

2. Hazard identification

| | | |
|-------------------------|--|-----------------------------|
| Physical hazards | Flammable liquids | Category 2 |
| Health hazards | Serious eye damage/eye irritation | Category 2A |
| | Specific target organ toxicity following single exposure | Category 3 narcotic effects |

Label elements



| | | |
|---------------------------------|---|--|
| Signal word | Danger | |
| Hazard statement | Highly flammable liquid and vapour. Causes serious eye irritation. May cause drowsiness or dizziness. | |
| 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/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Avoid breathing mist/vapours. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. 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. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTRE/doctor if you feel unwell. If eye irritation persists: Get medical advice/attention. In case of fire: Use water fog, alcohol resistant foam, dry chemical powder, carbon dioxide to extinguish. | |
| Storage | Store in a well-ventilated place. Keep container tightly closed. Store locked up. | |
| Disposal | Dispose of contents/container in accordance with local/regional/national/international regulations. | |
| Other hazards | None known. | |
| Supplemental information | None. | |

3. Composition/information on ingredients

Substances

| Chemical name | Common name and synonyms | CAS number | % |
|-------------------|---|------------|-----|
| Isopropyl alcohol | Dimethyl carbinol IPA 2-Propanol Isopropanol | 67-63-0 | 100 |

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

4. First-aid measures

Inhalation Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a poison centre or doctor/physician if you feel unwell.

Skin contact Take off immediately all contaminated clothing. Rinse skin with water/shower. Get medical attention if irritation develops and persists.

Eye contact Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.

Ingestion Rinse mouth. Get medical attention if symptoms occur.

Most important symptoms/effects, acute and delayed May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe 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. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim under observation. Symptoms may be delayed.

General information Take off all contaminated clothing immediately. Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.

5. Fire-fighting measures

Suitable extinguishing media Water fog. Alcohol resistant foam. Dry chemical powder. 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 Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. During fire, gases hazardous to health may be formed.

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 Highly flammable liquid and vapour.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapours. 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.

Large Spills: 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.

Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Clean surface thoroughly to remove residual contamination.

Never return spills to original containers for re-use. 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 Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapours. Avoid contact with eyes. Avoid prolonged exposure. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.

Conditions for safe storage, including any incompatibilities Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

| Material | Type | Value |
|---------------------------------|------|---------|
| Isopropyl alcohol (CAS 67-63-0) | STEL | 400 ppm |
| | TWA | 200 ppm |

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

| Material | Type | Value |
|---------------------------------|------|----------------------|
| Isopropyl alcohol (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)

| Material | Type | Value |
|---------------------------------|------|---------|
| Isopropyl alcohol (CAS 67-63-0) | STEL | 400 ppm |
| | TWA | 200 ppm |

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

| Material | Type | Value |
|---------------------------------|------|---------|
| Isopropyl alcohol (CAS 67-63-0) | STEL | 400 ppm |
| | TWA | 200 ppm |

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

| Material | Type | Value |
|---------------------------------|------|---------|
| Isopropyl alcohol (CAS 67-63-0) | STEL | 400 ppm |
| | TWA | 200 ppm |

Canada. Quebec OELs. (Ministry of Labor - Regulation respecting occupational health and safety)

| Material | Type | Value |
|---------------------------------|------|----------------------|
| Isopropyl alcohol (CAS 67-63-0) | STEL | 1230 mg/m3 |
| | | 500 ppm |
| | TWA | 983 mg/m3 400 ppm |

Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21)

| Material | Type | Value |
|---------------------------------|-----------|---------|
| Isopropyl alcohol (CAS 67-63-0) | 15 minute | 400 ppm |
| | 8 hour | 200 ppm |

Biological limit values**ACGIH Biological Exposure Indices**

| Material | Value | Determinant | Specimen | Sampling Time |
|---------------------------------|---------|-------------|----------|---------------|
| Isopropyl alcohol (CAS 67-63-0) | 40 mg/l | Acetone | Urine | * |

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

Appropriate engineering controls

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

Individual protection measures, such as personal protective equipment**Eye/face protection**

Wear safety glasses with side shields (or goggles).

Skin protection**Hand protection**

Wear appropriate chemical resistant gloves. Neoprene, butyl rubber, nitrile or Viton® gloves are recommended. Other suitable gloves can be recommended by the glove supplier. Be aware that the liquid may penetrate the gloves. Frequent change is advisable.

Other

Wear appropriate chemical resistant clothing.

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. Respirator type: Chemical respirator with organic vapour cartridge and full facepiece.

Thermal hazards

Wear appropriate thermal protective clothing, when necessary.

General hygiene considerations

When using do not smoke. Always observe good personal hygiene measures, such as washing after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants.

9. Physical and chemical properties**Appearance****Physical state**

Liquid.

Form

Liquid.

Colour

Colourless.

Odour

Alcohol-like.

Odour threshold

Not available.

pH

Not available.

Melting point/freezing point

-89.5 °C (-129.1 °F)

Initial boiling point and boiling range

83 °C (181.4 °F)

Flash point

12.0 °C (53.6 °F)

Evaporation rate

3

Flammability (solid, gas)

Not applicable.

Upper/lower flammability or explosive limits**Flammability limit - lower (%)**

2 % v/v

Flammability limit - upper (%)

12.7 % v/v

Vapour pressure

43.2 hPa (20 °C (68 °F))

Vapour density

2.1

Relative density

0.785 g/cm³ (25 °C (77 °F))

| | |
|--|-------------------|
| Solubility(ies) | |
| Solubility (water) | Complete |
| Partition coefficient (n-octanol/water) | 0.05 |
| Auto-ignition temperature | 399 °C (750.2 °F) |
| Decomposition temperature | Not available. |
| Viscosity | Not available. |
| Other information | |
| Explosive properties | Not explosive. |
| Heat of combustion (NFPA 30B) | 27.4 kJ/g |
| Molecular formula | C3-H8-O |
| Molecular weight | 60.1 g/mol |
| Oxidising properties | Not oxidising. |

10. Stability and reactivity

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|---|--|
| Reactivity | The product is stable and non-reactive under normal conditions of use, storage and transport. |
| Chemical stability | Material is stable under normal conditions. |
| Possibility of hazardous reactions | Hazardous polymerisation does not occur. |
| Conditions to avoid | Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials. |
| Incompatible materials | Acids. Strong oxidising agents. Chlorine. Isocyanates. |
| Hazardous decomposition products | No hazardous decomposition products are known. |

11. Toxicological information

Information on likely routes of exposure

| | |
|---------------------|---|
| Inhalation | May cause drowsiness or dizziness. Headache. Nausea, vomiting. Prolonged inhalation may be harmful. |
| Skin contact | No adverse effects due to skin contact are expected. |
| Eye contact | Causes serious eye irritation. |
| Ingestion | Expected to be a low ingestion hazard. |

| | |
|---|--|
| Symptoms related to the physical, chemical and toxicological characteristics | May cause drowsiness or dizziness. Headache. Nausea, vomiting. Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. |
|---|--|

Information on toxicological effects

Acute toxicity

| Product | Species | Test Results |
|---------------------------------|---------|--------------------|
| Isopropyl alcohol (CAS 67-63-0) | | |
| Acute | | |
| Dermal | | |
| LD50 | Rabbit | 12870 mg/kg |
| Inhalation | | |
| <i>Vapour</i> | | |
| LC50 | Rat | 72.6 mg/l, 4 Hours |
| Oral | | |
| LD50 | Rat | 4710 mg/kg |

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

Serious eye damage/eye irritation Causes serious eye irritation.

Respiratory or skin sensitisation

Respiratory sensitisation Not a respiratory sensitiser.

Skin sensitisation This product is not expected to cause skin sensitisation.
Germ cell mutagenicity No data available to indicate product or any components present at greater than 0.1% are mutagenic or genotoxic.

Carcinogenicity

ACGIH Carcinogens

Isopropyl alcohol (CAS 67-63-0) A4 Not classifiable as a human carcinogen.

Canada - Manitoba OELs: carcinogenicity

Isopropyl alcohol (CAS 67-63-0) Not classifiable as a human carcinogen.

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

Specific target organ toxicity - single exposure May cause drowsiness or dizziness.

Specific target organ toxicity - repeated exposure Not classified.

Aspiration hazard Not an aspiration hazard.

Chronic effects Prolonged inhalation may be harmful.

12. Ecological information

Ecotoxicity The product is not classified as environmentally hazardous. However, this does not exclude the possibility that large or frequent spills can have a harmful or damaging effect on the environment.

| Product | Species | Test Results |
|---------------------------------|---------|---|
| Isopropyl alcohol (CAS 67-63-0) | | |
| Aquatic | | |
| <i>Acute</i> | | |
| Crustacea | LC50 | Daphnia magna > 10000 mg/l, 24 hours |
| Fish | LC50 | Pimephales promelas 9640 mg/l, 96 hours |
| <i>Chronic</i> | | |
| Crustacea | EC50 | Daphnia magna > 100 mg/l, 21 days |
| | NOEC | Daphnia magna 141 mg/l, 16 days |
| | | 30 mg/l, 21 days |

Persistence and degradability Expected to be readily biodegradable.

Bioaccumulative potential

Partition coefficient n-octanol / water (log Kow)
0.05

Mobility in soil Expected to be highly mobile in soil.

Other adverse effects None known.

13. Disposal considerations

Disposal instructions Collect and reclaim or dispose in sealed containers at licensed waste disposal site. 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 Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).

Contaminated packaging Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG

UN number UN1219
UN proper shipping name ISOPROPANOL
Transport hazard class(es)
Class 3

Subsidiary risk -
Packing group II
Environmental hazards No.
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IATA

UN number UN1219
UN proper shipping name Isopropanol
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards No.
ERG Code 3L
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

IMDG

UN number UN1219
UN proper shipping name ISOPROPANOL
Transport hazard class(es)
Class 3
Subsidiary risk -
Packing group II
Environmental hazards
Marine pollutant No.
EmS F-E, S-D
Special precautions for user Read safety instructions, SDS and emergency procedures before handling.

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code This product is not intended to be transported in bulk.

15. Regulatory information

Canadian 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.

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3)

Not listed.

Greenhouse Gases

Not listed.

Precursor Control Regulations

Not regulated.

International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol

Not applicable.

Basel Convention

Not applicable.

International Inventories

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|----------------------|--|------------------------|
| Australia | Australian Inventory of Industrial Chemicals (AICIS) | Yes |
| Canada | Domestic Substances List (DSL) | Yes |
| Canada | Non-Domestic Substances List (NDSL) | No |

| Country(s) or region | Inventory name | On inventory (yes/no)* |
|-----------------------------|--|------------------------|
| China | Inventory of Existing Chemical Substances in China (IECSC) | Yes |
| Europe | European Inventory of Existing Commercial Chemical Substances (EINECS) | Yes |
| Europe | European List of Notified Chemical Substances (ELINCS) | No |
| Japan | Inventory of Existing and New Chemical Substances (ENCS) | Yes |
| Korea | Existing Chemicals List (ECL) | Yes |
| New Zealand | New Zealand Inventory | Yes |
| Philippines | Philippine Inventory of Chemicals and Chemical Substances (PICCS) | Yes |
| Taiwan | Taiwan Chemical Substance Inventory (TCSI) | 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)

A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

| | |
|----------------------|---|
| Issue date | 04-May-2021 |
| Revision date | 12-December-2023 |
| Version No. | 02 |
| Disclaimer | <p>This product is subject to Greenfield Global Inc.'s terms and conditions, which can be found at http://www.greenfield.com/tc-po-can/. The information in this SDS is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. The information in this safety data sheet must be regarded as a description of the safety requirements relating to the material and not as a guarantee of the properties thereof. No warranty guarantee or representation is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy itself as to the suitability of such information for its own particular use. This information relates only to the specific product designated and may not be valid for such product used in combination with any other materials or in any process. It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations applicable to the use, storage, or handling of the product. THE COMPANY MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE, COURSE OF PERFORMANCE, OR USAGE OF TRADE, ALL OF WHICH ARE EXPRESSLY DISCLAIMED. Given the variety of factors that can affect the use and application of the product, which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to independently determine whether it is fit for a particular purpose, suitable, safe, and/or lawful for user's method of use or application.</p> |