

1. Identification

Product identifier: GLASS CLEANER S50

Other means of identification

CRL Catalog Number: M1973

Recommended restrictions

Product use: Cleaner

Restrictions on use: Not known.

Manufacturer/Importer/Distributor Information

Manufacturer

Company Name: C R LAURENCE of CANADA
Address: 65 TIGI COURT
CONCORD, ONTARIO L4K 5E4
Telephone: 905-303-7966
Fax:

Emergency telephone number: 1-866-836-8855

2. Hazard(s) identification

Hazard Classification

Physical Hazards

Flammable aerosol

Category 1

Label Elements

Hazard Symbol:



Signal Word: Danger

Hazard Statement: Extremely flammable aerosol.

Precautionary Statements

Prevention: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use.

Storage: Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122°F.

Other hazards which do not result in GHS classification: None.

3. Composition/information on ingredients**Mixtures**

| Chemical Identity | Common name and synonyms | CAS number | Content in percent (%)* |
|--------------------|--------------------------|------------|-------------------------|
| Ethanol, 2-butoxy- | | 111-76-2 | 3 - 7% |
| 2-Propanol | | 67-63-0 | 1 - 5% |
| Propane | | 74-98-6 | 1 - 5% |
| Morpholine | | 110-91-8 | 0.1 - 1% |

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

4. First-aid measures

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|----------------------|---|
| Ingestion: | Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. |
| Inhalation: | Move to fresh air. |
| Skin Contact: | Wash skin thoroughly with soap and water. If skin irritation occurs: Get medical advice/attention. |
| Eye contact: | Any material that contacts the eye should be washed out immediately with water. If easy to do, remove contact lenses. If eye irritation persists: Get medical advice/attention. |

Most important symptoms/effects, acute and delayed

| | |
|------------------|--------------------|
| Symptoms: | No data available. |
| Hazards: | No data available. |

Indication of immediate medical attention and special treatment needed

| | |
|-------------------|--------------------|
| Treatment: | No data available. |
|-------------------|--------------------|

5. Fire-fighting measures

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|------------------------------|---|
| General Fire Hazards: | Use water spray to keep fire-exposed containers cool. Fight fire from a protected location. Move containers from fire area if you can do so without risk. |
|------------------------------|---|

Suitable (and unsuitable) extinguishing media

| | |
|--|---|
| Suitable extinguishing media: | Use fire-extinguishing media appropriate for surrounding materials. |
| 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 travel considerable distance to a source of ignition and flash back. |

Special protective equipment and precautions for firefighters

| | |
|--|--|
| Special fire fighting procedures: | No data available. |
| Special protective equipment for fire-fighters: | Firefighters must use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA. |

6. Accidental release measures

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|---|---|
| Personal precautions, protective equipment and emergency procedures: | Ventilate closed spaces before entering them. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Keep upwind. |
| Methods and material for containment and cleaning up: | Stop the flow of material, if this is without risk. Absorb with sand or other inert absorbent. |
| Notification Procedures: | ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Stop leak if you can do so without risk. |
| Environmental Precautions: | Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Do not contaminate water sources or sewer. Environmental manager must be informed of all major spillages. |

7. Handling and storage

| | |
|--|---|
| Precautions for safe handling: | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. |
| Conditions for safe storage, including any incompatibilities: | Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C. Do not pierce or burn, even after use. Aerosol Level 1 |

8. Exposure controls/personal protection

Control Parameters Occupational Exposure Limits

| Chemical Identity | Type | Exposure Limit Values | Source |
|--------------------|------------|-----------------------|---|
| Ethanol, 2-butoxy- | TWA | 20 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Ethanol, 2-butoxy- | TWA | 20 ppm 97 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (10 2006) |
| Ethanol, 2-butoxy- | 15 MIN ACL | 30 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Ethanol, 2-butoxy- | TWA | 20 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| Ethanol, 2-butoxy- | TWA | 20 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| | 8 HR ACL | 20 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Ethanol, 2-butoxy- | TWA | 20 ppm 97 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017) |
| Ethanol, 2-butoxy- | TWA | 20 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| 2-Propanol | STEL | 400 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | TWA | 200 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 2-Propanol | STEL | 400 ppm 984 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009) |
| 2-Propanol | 8 HR ACL | 200 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| | TWA | 200 ppm 492 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009) |
| | 15 MIN ACL | 400 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| 2-Propanol | TWA | 200 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |

SAFETY DATA SHEET

JULY 2021



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|--------------------------------|------------|-----------------------|---|
| 2-Propanol | TWA | 200 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| | STEL | 400 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| | STEL | 400 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| 2-Propanol | STEL | 500 ppm 1,230 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017) |
| | TWA | 400 ppm 983 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017) |
| 2-Propanol | TWA | 200 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| | STEL | 400 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| Propane | TWA | 1,000 ppm | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009) |
| Propane | 8 HR ACL | 1,000 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Propane | TWA | 1,000 ppm 1,800 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (12 2008) |
| Propane | TWA | 1,000 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | 15 MIN ACL | 1,250 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Butane | STEL | 1,000 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (08 2017) |
| Butane | STEL | 750 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2017) |
| | TWA | 600 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (06 2017) |
| Butane | TWA | 800 ppm 1,900 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (12 2008) |
| Butane | TWA | 1,000 ppm | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009) |
| Butane | 8 HR ACL | 1,000 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Butane | STEL | 1,000 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2018) |
| | 15 MIN ACL | 1,250 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Butane | STEL | 1,000 ppm | US. ACGIH Threshold Limit Values, as amended (03 2018) |
| Morpholine | TWA | 20 ppm 71 mg/m3 | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (10 2006) |
| Morpholine | TWA | 20 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Morpholine | TWA | 20 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (06 2015) |
| Morpholine | TWA | 20 ppm 71 mg/m3 | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (12 2008) |
| Morpholine | 15 MIN ACL | 30 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| | 8 HR ACL | 20 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Morpholine | TWA | 20 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| Morpholine | TWA | 20 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| Ammonium hydroxide ((NH4)(OH)) | STEL | 35 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Ammonium hydroxide ((NH4)(OH)) | TWA | 25 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| Ammonium hydroxide ((NH4)(OH)) | TWA | 25 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| | TWA | 25 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| | STEL | 35 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |

SAFETY DATA SHEET

JULY 2021



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|---|------------|-------------------------------|---|
| | STEL | 35 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| Ammonium hydroxide ((NH ₄)(OH)) | STEL | 35 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| | TWA | 25 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| Ethanol, 2-methoxy- | TWA | 0.1 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Ethanol, 2-methoxy- | TWA | 0.1 ppm 0.3 mg/m ³ | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (07 2009) |
| Ethanol, 2-methoxy- | 8 HR ACL | 5 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Ethanol, 2-methoxy- | TWA | 0.1 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| Ethanol, 2-methoxy- | TWA | 5 ppm 16 mg/m ³ | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017) |
| Ethanol, 2-methoxy- | TWA | 0.1 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (12 2007) |
| | 15 MIN ACL | 8 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Ethanol, 2-methoxy-1,2-Ethanediamine | TWA | 0.1 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| | TWA | 10 ppm 25 mg/m ³ | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (10 2006) |
| 1,2-Ethanediamine | TWA | 10 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| 1,2-Ethanediamine | 15 MIN ACL | 15 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| 1,2-Ethanediamine | TWA | 10 ppm 25 mg/m ³ | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017) |
| | 8 HR ACL | 10 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| 1,2-Ethanediamine | TWA | 10 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| 1,2-Ethanediamine | TWA | 10 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| 1,2-Ethanediamine | TWA | 10 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |
| Morpholine, 4-ethyl- | TWA | 5 ppm 24 mg/m ³ | Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2), as amended (10 2006) |
| Morpholine, 4-ethyl- | 8 HR ACL | 5 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Morpholine, 4-ethyl- | TWA | 5 ppm | Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act), as amended (03 2011) |
| Morpholine, 4-ethyl- | TWA | 5 ppm | Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended) (07 2007) |
| Morpholine, 4-ethyl- | TWA | 5 ppm | Canada. Ontario OELs. (Control of Exposure to Biological or Chemical Agents), as amended (11 2010) |
| Morpholine, 4-ethyl- | TWA | 5 ppm 24 mg/m ³ | Canada. Quebec OELs. (Ministry of Labor - Regulation Respecting the Quality of the Work Environment), as amended (09 2017) |
| | 15 MIN ACL | 8 ppm | Canada. Saskatchewan OELs (Occupational Health and Safety Regulations, 1996, Table 21), as amended (05 2009) |
| Morpholine, 4-ethyl- | TWA | 5 ppm | US. ACGIH Threshold Limit Values, as amended (2008) |

Appropriate Engineering Controls

No data available.

Individual protection measures, such as personal protective equipment

General information:

Use personal protective equipment as required. Personal protection equipment should be chosen according to the CEN standards and in discussion with the supplier of the personal protective equipment.

Eye/face protection:

Wear goggles/face shield.

Skin Protection

Hand Protection:

No data available.

Other:

No data available.

Respiratory Protection: In case of inadequate ventilation use suitable respirator. Seek advice from local supervisor.

Hygiene measures: When using do not smoke. Observe good industrial hygiene practices.

9. Physical and chemical properties

Appearance

Physical state: liquid
Form: Spray Aerosol
Color: No data available.

Odor: No data available.

Odor threshold: No data available.

pH: No data available.

Melting point/freezing point: No data available.

Initial boiling point and boiling range: No data available.

Flash Point: -104.44 °C

Evaporation rate: No data available.

Flammability (solid, gas): No data available.

Upper/lower limit on flammability or explosive limits

Flammability limit - upper (%): No data available.

Flammability limit - lower (%): No data available.

Explosive limit - upper (%): No data available.

Explosive limit - lower (%): No data available.

Vapor pressure: 4,136 - 5,515 hPa (20 °C)

Vapor density: No data available.

Density: No data available.

Relative density: No data available.

Solubility(ies)

Solubility in water: No data available.

Solubility (other): No data available.

Partition coefficient (n-octanol/water): No data available.

Auto-ignition temperature: No data available.

Decomposition temperature: No data available.

Viscosity: No data available.

10. Stability and reactivity

Reactivity: No data available.

Chemical Stability: Material is stable under normal conditions.

Possibility of hazardous reactions: No data available.

Conditions to avoid: Avoid heat or contamination.

Incompatible Materials: No data available.

Hazardous Decomposition Products: No data available.

11. Toxicological information

Information on likely routes of exposure

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation: No data available.

Skin Contact: No data available.

Eye contact: No data available.

Ingestion: No data available.

Information on toxicological effects

Acute toxicity (list all possible routes of exposure)

Oral

Product: ATEmix: 34,883.72 mg/kg

Dermal

Product: ATEmix: 12,524.66 mg/kg

Inhalation

Product: ATEmix: 399.58 mg/l
ATEmix : 99.9 mg/l

Repeated dose toxicity

Product: No data available.

Specified substance(s):

| | |
|--------------------|--|
| Ethanol, 2-butoxy- | NOAEL (Rat(Female), Inhalation, 2 yr): < 31 ppm(m) Inhalation Experimental result, Key study NOAEL (Rat(Female), Oral, 90 d): < 82 mg/kg Oral Experimental result, Key study NOAEL (Rabbit(Female, Male), Dermal, 90 d): > 150 mg/kg Dermal Experimental result, Key study |
| 2-Propanol | NOAEL (Rat, Inhalation, >= 104 Weeks): 5,000 ppm(m) Inhalation Experimental result, Key study |
| Propane | NOAEL (Rat(Female, Male), Inhalation, >= 28 d): 4,000 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female, Male), Inhalation, >= 28 d): 12,000 ppm(m) Inhalation Experimental result, Key study |
| Morpholine | NOAEL (Rat(Female, Male), Inhalation): 36 ppm(m) Inhalation Experimental result, Key study LOAEL (Rat(Female), Oral, 56 d): 500 mg/kg Oral Experimental result, Key study |

Skin Corrosion/Irritation

Product: No data available.

Specified substance(s):

| | |
|--------------------|---|
| Ethanol, 2-butoxy- | in vivo (Rabbit): Irritating Experimental result, Key study |
| 2-Propanol | in vivo (Rabbit): Not Classified Experimental result, Key study |
| Morpholine | in vivo (Rabbit): Corrosive Experimental result, Key study |

Serious Eye Damage/Eye Irritation**Product:** No data available.**Specified substance(s):**

| | |
|--------------------|--|
| Ethanol, 2-butoxy- | Rabbit, 24 - 72 hrs: Irritating |
| 2-Propanol | Rabbit, 1 d: Category 2: Causes serious eye irritation |

Irritating.

Respiratory or Skin Sensitization**Product:** No data available.**Specified substance(s):**

| | |
|--------------------|--|
| Ethanol, 2-butoxy- | Skin sensitization:, in vivo (Guinea pig): Non sensitising |
| 2-Propanol | Skin sensitization:, in vivo (Guinea pig): Non sensitising |
| Morpholine | Skin sensitization:, in vivo (Guinea pig): Non sensitising |

Carcinogenicity**Product:** No data available.**IARC Monographs on the Evaluation of Carcinogenic Risks to Humans:**

No carcinogenic components identified

US. National Toxicology Program (NTP) Report on Carcinogens:

No carcinogenic components identified

ACGIH Carcinogen List:

No carcinogenic components identified

Germ Cell Mutagenicity**In vitro****Product:** No data available.**In vivo****Product:** No data available.**Reproductive toxicity****Product:** No data available.**Specific Target Organ Toxicity - Single Exposure****Product:** No data available.**Specified substance(s):**

| | |
|------------|--|
| 2-Propanol | Narcotic effect. - Category 3 with narcotic effects. |
|------------|--|

Specific Target Organ Toxicity - Repeated Exposure**Product:** No data available.**Aspiration Hazard****Product:** No data available.**Other effects:**

No data available.

12. Ecological information**Ecotoxicity:****Acute hazards to the aquatic environment:****Fish****Product:** No data available.**Specified substance(s):**

| | |
|--------------------|--|
| Ethanol, 2-butoxy- | LC 50 (Oncorhynchus mykiss, 96 h): 1,474 mg/l Experimental result, Key study |
|--------------------|--|

2-Propanol LC 50 (Pimephales promelas, 96 h): 9,640 mg/l Experimental result, Key study

Propane LC 50 (Various, 96 h): 147.54 mg/l QSAR QSAR, Key study

Morpholine LC 50 (Oncorhynchus mykiss, 96 h): 180 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Ethanol, 2-butoxy- EC 50 (Daphnia magna, 48 h): 1,550 mg/l Experimental result, Key study

2-Propanol LC 50 (Daphnia magna, 24 h): > 10,000 mg/l Experimental result, Key study

Morpholine EC 50 (Daphnia magna, 48 h): 45 mg/l Experimental result, Key study

Chronic hazards to the aquatic environment:

Fish

Product: No data available.

Specified substance(s):

Ethanol, 2-butoxy- NOAEL (Danio rerio): > 100 mg/l Experimental result, Key study

Aquatic Invertebrates

Product: No data available.

Specified substance(s):

Ethanol, 2-butoxy- EC 10 (Daphnia magna): 134 mg/l Experimental result, Key study
EC 50 (Daphnia magna): 297 mg/l Experimental result, Key study

Morpholine EC 50 (Daphnia magna): 12 mg/l Experimental result, Key study
NOAEL (Daphnia magna): 5 mg/l Experimental result, Key study

Toxicity to Aquatic Plants

Product: No data available.

Persistence and Degradability

Biodegradation

Product: No data available.

Specified substance(s):

Ethanol, 2-butoxy- 90.4 % Detected in water. Experimental result, Key study

2-Propanol 53 % (5 d) Detected in water. Experimental result, Key study

Propane 100 % (385.5 h) Detected in water. Experimental result, Key study
50 % (3.19 d) Detected in water. QSAR, Weight of Evidence study

Morpholine > 90 % (24 h) Sediment Experimental result, Key study
80 - 94 % (24 h) Sediment Experimental result, Key study

BOD/COD Ratio

Product: No data available.

Bioaccumulative potential

Bioconcentration Factor (BCF)

Product: No data available.

Specified substance(s):

Morpholine Cyprinus carpio, Bioconcentration Factor (BCF): < 2.8 Aquatic sediment
Experimental result, Key study

Partition Coefficient n-octanol / water (log Kow)**Product:** No data available.**Mobility in soil:** No data available.**Known or predicted distribution to environmental compartments**

Ethanol, 2-butoxy- No data available.

2-Propanol No data available.

Propane No data available.

Morpholine No data available.

Other adverse effects: No data available.**13. Disposal considerations****Disposal instructions:** Wash before disposal. Dispose to controlled facilities.**Contaminated Packaging:** No data available.**14. Transport information****TDG**UN Number: UN 1950
UN Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)

Class: 2.1

Label(s): –

EmS No.:

Packing Group: –

Environmental Hazards: No

Marine Pollutant No

Special precautions for user: Not regulated.

IMDGUN Number: UN 1950
UN Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)

Class: 2

Label(s): –

EmS No.:

Packing Group: –

Environmental Hazards: No

Marine Pollutant No

Special precautions for user: Not regulated.

IATAUN Number: UN 1950
Proper Shipping Name: Aerosols, flammable
Transport Hazard Class(es)

Class: 2.1

Label(s): –

Packing Group: –

Environmental Hazards: No

Marine Pollutant No

Special precautions for user: Not regulated.

Cargo aircraft only: Allowed.

15. Regulatory information**Canada Federal Regulations****List of Toxic Substances (CEPA, Schedule 1)****Chemical Identity**

Ethanol, 2-butoxy-
Ethanol, 2-methoxy-

Export Control List (CEPA 1999, Schedule 3)**Chemical Identity**

Ethanol, 2-methoxy-

National Pollutant Release Inventory (NPRI)**Canada. National Pollutant Release Inventory (NPRI) Substances, Part 5, VOCs with Additional Reporting Requirements**

| | |
|----------|----------------------|
| NPRI PT5 | Ethanol, 2-butoxy-2- |
| | Propanol |
| | Propane |
| | Butane |

Canada. National Pollutant Release Inventory (NPRI) (Schedule 1, Parts 1-4)

| | |
|------|----------------------|
| NPRI | Ethanol, 2-butoxy-2- |
| | Propanol |

Greenhouse Gases

Not Regulated

Controlled Drugs and Substances Act

| | |
|------------|---------------|
| CA CDSI | Not Regulated |
| CA CDSII | Not Regulated |
| CA CDSIII | Not Regulated |
| CA CDSIV | Not Regulated |
| CA CDSV | Not Regulated |
| CA CDSVII | Not Regulated |
| CA CDSVIII | Not Regulated |

Precursor Control Regulations

Not Regulated

International regulations**Montreal protocol**

Not applicable

Stockholm convention

Not applicable

Rotterdam convention

Not applicable

Kyoto protocol

Not applicable

Inventory Status:

| | |
|--|--|
| Australia AICS: | On or in compliance with the inventory |
| Canada DSL Inventory List: | On or in compliance with the inventory |
| EINECS, ELINCS or NLP: | Not in compliance with the inventory. |
| Japan (ENCS) List: | Not in compliance with the inventory. |
| China Inv. Existing Chemical Substances: | On or in compliance with the inventory |
| Korea Existing Chemicals Inv. (KECI): | On or in compliance with the inventory |
| Canada NDSL Inventory: | Not in compliance with the inventory. |
| Philippines PICCS: | On or in compliance with the inventory |
| US TSCA Inventory: | On or in compliance with the inventory |
| New Zealand Inventory of Chemicals: | On or in compliance with the inventory |
| Japan ISHL Listing: | Not in compliance with the inventory. |
| Japan Pharmacopoeia Listing: | Not in compliance with the inventory. |
| Mexico INSQ: | Not in compliance with the inventory. |
| Ontario Inventory: | On or in compliance with the inventory |
| Taiwan Chemical Substance Inventory: | On or in compliance with the inventory |

16. Other information, including date of preparation or last revision

| | |
|-----------------------------|---|
| Issue Date: | 09/28/2020 |
| Revision Date: | No data available. |
| Version #: | 1.0 |
| Further Information: | No data available. |
| Disclaimer: | This information is provided without warranty. The information is believed to be correct. This information should be used to make an independent determination of the methods to safeguard workers and the environment. |