

# Canada Cannabis Residual Solvent Mix 1

## Novachem Pty Ltd

Version No: 1.1  
Safety Data Sheet according to WHS and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 15/09/2020  
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S.GHS.AUS.EN

### SECTION 1 Identification of the substance / mixture and of the company / undertaking

#### Product Identifier

Product name	Canada Cannabis Residual Solvent Mix 1
Synonyms	Not Available
Proper shipping name	METHANOL
Other means of identification	CP-CAN-RS-01

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	Laboratory Chemical Reference Material
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#### Details of the supplier of the safety data sheet

Registered company name	Novachem Pty Ltd
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia
Telephone	+61384151255
Fax	+61386250088
Website	<a href="http://www.novachem.com.au">www.novachem.com.au</a>
Email	novachem@novachem.com.au

#### Emergency telephone number

Association / Organisation	Victorian Poisons Information Centre
Emergency telephone numbers	13 11 26
Other emergency telephone numbers	Not Available

### SECTION 2 Hazards identification

#### Classification of the substance or mixture

**HAZARDOUS CHEMICAL. DANGEROUS GOODS.** According to the WHS Regulations and the ADG Code.

#### ChemWatch Hazard Ratings

	Min	Max	
Flammability	3		0 = Minimum 1 = Low 2 = Moderate 3 = High 4 = Extreme
Toxicity	3		
Body Contact	3		
Reactivity	0		
Chronic	4		

Poisons Schedule	Not Applicable
Classification [1]	Acute Toxicity (Dermal) Category 3, Specific target organ toxicity - single exposure Category 1, Acute Aquatic Hazard Category 3, Flammable Liquid Category 2, Serious Eye Damage Category 1, Acute Toxicity (Inhalation) Category 3, Skin Corrosion/Irritation Category 2, Reproductive Toxicity Category 1B, Acute Toxicity (Oral) Category 3, Chronic Aquatic Hazard Category 3
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

#### Label elements

Hazard pictogram(s)	
Signal word	Danger

## Canada Cannabis Residual Solvent Mix 1

## Hazard statement(s)

<b>H311</b>	Toxic in contact with skin.
<b>H370</b>	Causes damage to organs.
<b>H225</b>	Highly flammable liquid and vapour.
<b>H318</b>	Causes serious eye damage.
<b>H331</b>	Toxic if inhaled.
<b>H315</b>	Causes skin irritation.
<b>H360D</b>	May damage the unborn child.
<b>H301</b>	Toxic if swallowed.
<b>H412</b>	Harmful to aquatic life with long lasting effects.

## Precautionary statement(s) Prevention

<b>P201</b>	Obtain special instructions before use.
<b>P210</b>	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
<b>P260</b>	Do not breathe mist/vapours/spray.
<b>P270</b>	Do not eat, drink or smoke when using this product.

## Precautionary statement(s) Response

<b>P301+P310</b>	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
<b>P305+P351+P338</b>	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
<b>P307+P311</b>	IF exposed: Call a POISON CENTER or doctor/physician.
<b>P308+P313</b>	IF exposed or concerned: Get medical advice/attention.

## Precautionary statement(s) Storage

<b>P403+P235</b>	Store in a well-ventilated place. Keep cool.
<b>P405</b>	Store locked up.

## Precautionary statement(s) Disposal

<b>P501</b>	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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## SECTION 3 Composition / information on ingredients

## Substances

See section below for composition of Mixtures

## Mixtures

CAS No	%[weight]	Name
64-19-7	0.5	<u>acetic acid glacial</u>
100-66-3	0.5	<u>anisole</u>
71-36-3	0.5	<u>n-butanol</u>
78-92-2	0.5	<u>2-butanol</u>
123-86-4	0.5	<u>n-butyl acetate</u>
67-68-5	0.5	<u>dimethyl sulfoxide</u>
64-17-5	0.5	<u>ethanol</u>
141-78-6	0.5	<u>ethyl acetate</u>
60-29-7	0.5	<u>diethyl ether</u>
109-94-4	0.5	<u>ethyl formate</u>
64-18-6	0.5	<u>formic acid</u>
142-82-5	0.5	<u>n-heptane</u>
110-19-0	0.5	<u>isobutyl acetate</u>
108-21-4	0.5	<u>isopropyl acetate</u>
79-20-9	0.5	<u>methyl acetate</u>
123-51-3	0.5	<u>iso-amyl alcohol</u>
78-83-1	0.5	<u>isobutanol</u>
1634-04-4	0.5	<u>methyl tert-butyl ether</u>
109-66-0	0.5	<u>n-pentane</u>
71-41-0	0.5	<u>1-pentanol</u>
71-23-8	0.5	<u>n-propanol</u>
67-63-0	0.5	<u>isopropanol</u>
109-60-4	0.5	<u>n-propyl acetate</u>
121-44-8	0.5	<u>triethylamine</u>

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## Canada Cannabis Residual Solvent Mix 1

CAS No	%[weight]	Name
67-56-1	88	<u>methanol</u>

## SECTION 4 First aid measures

## Description of first aid measures

<b>Eye Contact</b>	<p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> <li>▶ Immediately hold eyelids apart and flush the eye continuously with running water.</li> <li>▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.</li> <li>▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.</li> <li>▶ Transport to hospital or doctor without delay.</li> <li>▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.</li> </ul>
<b>Skin Contact</b>	<p>If skin or hair contact occurs:</p> <ul style="list-style-type: none"> <li>▶ Immediately flush body and clothes with large amounts of water, using safety shower if available.</li> <li>▶ Quickly remove all contaminated clothing, including footwear.</li> <li>▶ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.</li> <li>▶ Transport to hospital, or doctor.</li> </ul>
<b>Inhalation</b>	<ul style="list-style-type: none"> <li>▶ If fumes or combustion products are inhaled remove from contaminated area.</li> <li>▶ Lay patient down. Keep warm and rested.</li> <li>▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.</li> <li>▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.</li> <li>▶ Transport to hospital, or doctor, without delay.</li> </ul>
<b>Ingestion</b>	<ul style="list-style-type: none"> <li>▶ Immediately give a glass of water.</li> <li>▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.</li> <li>▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.</li> </ul>

## Indication of any immediate medical attention and special treatment needed

Any material aspirated during vomiting may produce lung injury. Therefore emesis should not be induced mechanically or pharmacologically. Mechanical means should be used if it is considered necessary to evacuate the stomach contents; these include gastric lavage after endotracheal intubation. If spontaneous vomiting has occurred after ingestion, the patient should be monitored for difficult breathing, as adverse effects of aspiration into the lungs may be delayed up to 48 hours.

For acute and short term repeated exposures to methanol:

- ▶ Toxicity results from accumulation of formaldehyde/formic acid.
- ▶ Clinical signs are usually limited to CNS, eyes and GI tract. Severe metabolic acidosis may produce dyspnea and profound systemic effects which may become intractable. All symptomatic patients should have arterial pH measured. Evaluate airway, breathing and circulation.
- ▶ Stabilise obtunded patients by giving naloxone, glucose and thiamine.
- ▶ Decontaminate with Ipecac or lavage for patients presenting 2 hours post-ingestion. Charcoal does not absorb well; the usefulness of cathartic is not established.
- ▶ Forced diuresis is not effective; haemodialysis is recommended where peak methanol levels exceed 50 mg/dL (this correlates with serum bicarbonate levels below 18 meq/L).
- ▶ Ethanol, maintained at levels between 100 and 150 mg/dL, inhibits formation of toxic metabolites and may be indicated when peak methanol levels exceed 20 mg/dL. An intravenous solution of ethanol in D5W is optimal.
- ▶ Folate, as leucovorin, may increase the oxidative removal of formic acid. 4-methylpyrazole may be an effective adjunct in the treatment. 8-Phenytoin may be preferable to diazepam for controlling seizure.

[Ellenhorn Barceloux: Medical Toxicology]

## BIOLOGICAL EXPOSURE INDEX - BEI

Determinant	Index	Sampling Time	Comment
1. Methanol in urine	15 mg/l	End of shift	B, NS
2. Formic acid in urine	80 mg/gm creatinine	Before the shift at end of workweek	B, NS

B: Background levels occur in specimens collected from subjects **NOT** exposed.

NS: Non-specific determinant - observed following exposure to other materials.

## SECTION 5 Firefighting measures

## Extinguishing media

Water may be an ineffective extinguishing media for methanol fires; static explosions are reported for aqueous solutions as dilute as 30%. Water may be used to cool containers.

- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.
- ▶ BCF (where regulations permit).
- ▶ Carbon dioxide.

## Special hazards arising from the substrate or mixture

<b>Fire Incompatibility</b>	▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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## Advice for firefighters

<b>Fire Fighting</b>	<ul style="list-style-type: none"> <li>▶ Alert Fire Brigade and tell them location and nature of hazard.</li> <li>▶ Wear breathing apparatus plus protective gloves in the event of a fire.</li> <li>▶ Prevent, by any means available, spillage from entering drains or water courses.</li> <li>▶ Use fire fighting procedures suitable for surrounding area.</li> </ul>
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## Canada Cannabis Residual Solvent Mix 1

<b>Fire/Explosion Hazard</b>	<ul style="list-style-type: none"> <li>▶ Combustible.</li> <li>▶ Slight fire hazard when exposed to heat or flame.</li> <li>▶ Heating may cause expansion or decomposition leading to violent rupture of containers.</li> <li>▶ On combustion, may emit toxic fumes of carbon monoxide (CO).</li> </ul> <p>Combustion products include: carbon dioxide (CO<sub>2</sub>) formaldehyde other pyrolysis products typical of burning organic material. May emit poisonous fumes.</p>
<b>HAZCHEM</b>	•2WE

**SECTION 6 Accidental release measures****Personal precautions, protective equipment and emergency procedures**

See section 8

**Environmental precautions**

See section 12

**Methods and material for containment and cleaning up**

<b>Minor Spills</b>	<ul style="list-style-type: none"> <li>▶ Remove all ignition sources.</li> <li>▶ Clean up all spills immediately.</li> <li>▶ Avoid breathing vapours and contact with skin and eyes.</li> <li>▶ Control personal contact with the substance, by using protective equipment.</li> </ul>
<b>Major Spills</b>	

Personal Protective Equipment advice is contained in Section 8 of the SDS.

**SECTION 7 Handling and storage****Precautions for safe handling**

<b>Safe handling</b>	<ul style="list-style-type: none"> <li>▶ Avoid all personal contact, including inhalation.</li> <li>▶ Wear protective clothing when risk of exposure occurs.</li> <li>▶ Use in a well-ventilated area.</li> <li>▶ Prevent concentration in hollows and sumps.</li> <li>▶ <b>DO NOT allow clothing wet with material to stay in contact with skin</b></li> </ul>
<b>Other information</b>	<ul style="list-style-type: none"> <li>▶ Pure formic acid slowly decomposes releasing toxic carbon monoxide and may pressurise containers.</li> <li>▶ Water in less concentrated acid improves stability.</li> <li>▶ Extreme care needed in opening containers of unknown age</li> <li>▶ Store in original containers.</li> <li>▶ Keep containers securely sealed.</li> <li>▶ Store in a cool, dry, well-ventilated area.</li> <li>▶ Store away from incompatible materials and foodstuff containers.</li> </ul>

**Conditions for safe storage, including any incompatibilities**

<b>Suitable container</b>	<ul style="list-style-type: none"> <li>▶ Glass container is suitable for laboratory quantities</li> <li>▶ Lined metal can, lined metal pail/ can.</li> <li>▶ Plastic pail.</li> <li>▶ Polyliner drum.</li> <li>▶ Packing as recommended by manufacturer.</li> </ul> <p>For low viscosity materials</p> <ul style="list-style-type: none"> <li>▶ Drums and jerricans must be of the non-removable head type.</li> <li>▶ Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> </ul> <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> <li>▶ Removable head packaging;</li> <li>▶ Cans with friction closures and</li> <li>▶ low pressure tubes and cartridges</li> </ul> <p>may be used.</p>
<b>Storage incompatibility</b>	<p>Methanol:</p> <ul style="list-style-type: none"> <li>▶ reacts violently with strong oxidisers, acetyl bromide, alkyl aluminium salts, beryllium dihydride, bromine, chromic acid, 1-chloro-3,3-difluoro-2-methoxycyclopropene, cyanuric chloride, diethylzinc, isophthaloyl chloride, nitric acid, perchloric acid, potassium-tert-butoxide, potassium sulfur diimide, Raney nickel catalysts, 2,4,6-trichlorotriazine, triethylaluminium, 1,3,3-trifluoro-2-methoxycyclopropene</li> <li>▶ is incompatible with strong acids, strong caustics, alkaline earth and alkali metals, aliphatic amines, acetaldehyde, benzoyl peroxide, 1,3-bis(di-n-cyclopentadienyl iron)-2-propen-1-one, calcium carbide, chloroform, chromic anhydride, chromium trioxide, dialkylzinc, dichlorine oxide, dichloromethane, ethylene oxide, hypochlorous acid, isocyanates, isopropyl chlorocarbonate, lithium tetrahydroaluminate, magnesium, methyl azide, nitrogen dioxide, palladium, pentafluoroguanidine, perchloryl fluoride, phosphorus pentasulfide, phosphorus trioxide, potassium, tangerine oil, triisobutylaluminium</li> <li>▶ mixtures with lead perchlorate, sodium hypochlorite are explosive</li> <li>▶ may react with metallic aluminium at high temperatures</li> <li>▶ slowly corrodes lead and aluminium</li> <li>▶ may generate electrostatic charges, due to low conductivity, on flow or agitation</li> <li>▶ attacks some plastics, rubber and coatings.</li> </ul> <p>Static induced flash fires have happened when filling plastic containers with methanol / water solutions with as low as 30% methanol content</p>

## Canada Cannabis Residual Solvent Mix 1

## Acetic acid:

- ▶ vapours forms explosive mixtures with air (above 39 C.)
- ▶ reacts violently with bases such as carbonates and hydroxides (giving off large quantities of heat), oxidisers, organic amines, acetaldehyde, potassium tert-butoxide
- ▶ reacts (sometimes violently), with strong acids, aliphatic amines, alkanolamines, alkylene oxides, epichlorohydrin, acetic anhydride, 2-aminoethanol, ammonia, ammonium nitrate, bromine pentafluoride, chlorosulfonic acid, chromic acid, chromium trioxide, ethylenediamine, ethyleneimine, hydrogen peroxide, isocyanates, oleum, perchloric acid, permanganates, phosphorus isocyanate, phosphorus trichloride, sodium peroxide, xylene
- ▶ attacks cast iron, stainless steel and other metals, forming flammable hydrogen gas
- ▶ attacks many forms of rubber, plastics and coatings

## Alcohols

- ▶ are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents.
- ▶ reacts, possibly violently, with alkaline metals and alkaline earth metals to produce hydrogen
- ▶ react with strong acids, strong caustics, aliphatic amines, isocyanates, acetaldehyde, benzoyl peroxide, chromic acid, chromium oxide, dialkylzincs, dichlorine oxide, ethylene oxide, hypochlorous acid, isopropyl chlorocarbonate, lithium tetrahydroaluminate, nitrogen dioxide, pentafluoroguanidine, phosphorus halides, phosphorus pentasulfide, tangerine oil, triethylaluminium, triisobutylaluminium
- ▶ should not be heated above 49 deg. C. when in contact with aluminium equipment

## Formic acid:

- ▶ reacts explosively or violently strong oxidisers, with hydrogen peroxide, furfuryl alcohol, hypochlorites, isocyanides, nitromethane, chromic acid, nitric acid, phosphorus pentoxide, strong bases thallium nitrate, nitromethane.
- ▶ reacts with concentrated sulfuric acid to produce carbon dioxide
- ▶ is incompatible with alkalis, ammonia, aliphatic amines, alkanolamines, furfuryl alcohol, isocyanates, alkylene oxides, epichlorohydrin, palladium
- ▶ is a strong reducing agent
- ▶ attacks aluminium, cast iron and steel, some plastics, rubber and coatings
- ▶ slowly decomposes in storage forming carbon dioxide gas
- ▶ Avoid storage with reducing agents.

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	acetic acid glacial	Acetic acid	10 ppm / 25 mg/m <sup>3</sup>	37 mg/m <sup>3</sup> / 15 ppm	Not Available	Not Available
Australia Exposure Standards	n-butanol	n-Butyl alcohol	Not Available	Not Available	50 ppm / 152 mg/m <sup>3</sup>	Not Available
Australia Exposure Standards	2-butanol	sec-Butyl alcohol	100 ppm / 303 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Australia Exposure Standards	n-butyl acetate	n-Butyl acetate	150 ppm / 713 mg/m <sup>3</sup>	950 mg/m <sup>3</sup> / 200 ppm	Not Available	Not Available
Australia Exposure Standards	ethanol	Ethyl alcohol	1000 ppm / 1880 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Australia Exposure Standards	ethyl acetate	Ethyl acetate	200 ppm / 720 mg/m <sup>3</sup>	1440 mg/m <sup>3</sup> / 400 ppm	Not Available	Not Available
Australia Exposure Standards	diethyl ether	Ethyl ether	400 ppm / 1210 mg/m <sup>3</sup>	1520 mg/m <sup>3</sup> / 500 ppm	Not Available	Not Available
Australia Exposure Standards	ethyl formate	Ethyl formate	100 ppm / 303 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Australia Exposure Standards	formic acid	Formic acid	5 ppm / 9.4 mg/m <sup>3</sup>	19 mg/m <sup>3</sup> / 10 ppm	Not Available	Not Available
Australia Exposure Standards	n-heptane	Heptane (n-Heptane)	400 ppm / 1640 mg/m <sup>3</sup>	2050 mg/m <sup>3</sup> / 500 ppm	Not Available	Not Available
Australia Exposure Standards	isobutyl acetate	Isobutyl acetate	150 ppm / 713 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Australia Exposure Standards	isopropyl acetate	Isopropyl acetate	250 ppm / 1040 mg/m <sup>3</sup>	1290 mg/m <sup>3</sup> / 310 ppm	Not Available	Not Available
Australia Exposure Standards	methyl acetate	Methyl acetate	200 ppm / 606 mg/m <sup>3</sup>	757 mg/m <sup>3</sup> / 250 ppm	Not Available	Not Available
Australia Exposure Standards	iso-amyl alcohol	Isoamyl alcohol	100 ppm / 361 mg/m <sup>3</sup>	452 mg/m <sup>3</sup> / 125 ppm	Not Available	Not Available
Australia Exposure Standards	isobutanol	Isobutyl alcohol	50 ppm / 152 mg/m <sup>3</sup>	Not Available	Not Available	Not Available
Australia Exposure Standards	methyl tert-butyl ether	Methyl-tert butyl ether	25 ppm / 92 mg/m <sup>3</sup>	275 mg/m <sup>3</sup> / 75 ppm	Not Available	Not Available
Australia Exposure Standards	n-pentane	Pentane	600 ppm / 1770 mg/m <sup>3</sup>	2210 mg/m <sup>3</sup> / 750 ppm	Not Available	Not Available
Australia Exposure Standards	n-propanol	Propyl alcohol	200 ppm / 492 mg/m <sup>3</sup>	614 mg/m <sup>3</sup> / 250 ppm	Not Available	Not Available
Australia Exposure Standards	isopropanol	Isopropyl alcohol	400 ppm / 983 mg/m <sup>3</sup>	1230 mg/m <sup>3</sup> / 500 ppm	Not Available	Not Available
Australia Exposure Standards	n-propyl acetate	n-Propyl acetate	200 ppm / 835 mg/m <sup>3</sup>	1040 mg/m <sup>3</sup> / 250 ppm	Not Available	Not Available

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## Canada Cannabis Residual Solvent Mix 1

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	triethylamine	Triethylamine	2 ppm / 8 mg/m3	17 mg/m3 / 4 ppm	Not Available	Not Available
Australia Exposure Standards	methanol	Methyl alcohol	200 ppm / 262 mg/m3	328 mg/m3 / 250 ppm	Not Available	Not Available

## Emergency Limits

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
acetic acid glacial	Acetic acid	Not Available	Not Available	Not Available
anisole	Anisole; (Anisole anhydrous; Methoxybenzene)	1.6 mg/m3	18 mg/m3	110 mg/m3
n-butanol	Butyl alcohol, n-; (n-Butanol)	60 ppm	800 ppm	8000** ppm
2-butanol	Butyl alcohol, sec-; (2-Butanol)	150 ppm	220 ppm	10000** ppm
n-butyl acetate	Butyl acetate, n-	Not Available	Not Available	Not Available
dimethyl sulfoxide	Dimethyl sulfoxide; (DMSO)	150 ppm	290 ppm	1,800 ppm
ethanol	Ethanol; (Ethyl alcohol)	Not Available	Not Available	15000* ppm
ethyl acetate	Ethyl acetate	1,200 ppm	1,700 ppm	10000** ppm
diethyl ether	Ethyl ether	500 ppm	3200* ppm	19000*** ppm
ethyl formate	Ethyl formate	100 ppm	1,300 ppm	8000* ppm
formic acid	Formic acid	Not Available	Not Available	Not Available
n-heptane	Heptane	500 ppm	830 ppm	5000* ppm
isobutyl acetate	Isobutyl acetate	450 ppm	1300* ppm	7500** ppm
isopropyl acetate	Isopropyl acetate	200 ppm	2700* ppm	16000** ppm
methyl acetate	Methyl acetate	250 ppm	1,700 ppm	10000* ppm
iso-amyl alcohol	Isoamyl alcohol (primary); (3-Methyl-1-butanol); includes Isoamyl alcohol (584-02-1), 2-pentanol (6032-29-7), amyl alcohol (71-41-0), and 2-methyl-2-butanol (75-85-4)	125 ppm	1700* ppm	10000** ppm
isobutanol	Isobutyl alcohol	150 ppm	1,300 ppm	8000* ppm
methyl tert-butyl ether	Methyl tert-butyl ether; (MTBE)	Not Available	Not Available	Not Available
n-pentane	Pentane, n-	3000* ppm	33000*** ppm	200000*** ppm
1-pentanol	Isoamyl alcohol (primary); (3-Methyl-1-butanol); includes Isoamyl alcohol (584-02-1), 2-pentanol (6032-29-7), amyl alcohol (71-41-0), and 2-methyl-2-butanol (75-85-4)	125 ppm	1700* ppm	10000** ppm
n-propanol	n-Propanol (Propyl alcohol, n-)	250 ppm	670 ppm	4000* ppm
isopropanol	Isopropyl alcohol	400 ppm	2000* ppm	12000** ppm
n-propyl acetate	Propyl acetate, n-	250 ppm	1,300 ppm	8000* ppm
triethylamine	Triethylamine	1 ppm	170 ppm	1,000 ppm
methanol	Methanol; (Methyl alcohol)	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
acetic acid glacial	50 ppm	Not Available
anisole	Not Available	Not Available
n-butanol	1,400 ppm	Not Available
2-butanol	2,000 ppm	Not Available
n-butyl acetate	1,700 ppm	Not Available
dimethyl sulfoxide	Not Available	Not Available
ethanol	3,300 ppm	Not Available
ethyl acetate	2,000 ppm	Not Available
diethyl ether	1,900 ppm	Not Available
ethyl formate	1,500 ppm	Not Available
formic acid	30 ppm	Not Available
n-heptane	750 ppm	Not Available
isobutyl acetate	1,300 ppm	Not Available
isopropyl acetate	1,800 ppm	Not Available
methyl acetate	3,100 ppm	Not Available
iso-amyl alcohol	500 ppm	Not Available

## Canada Cannabis Residual Solvent Mix 1

Ingredient	Original IDLH	Revised IDLH
isobutanol	1,600 ppm	Not Available
methyl tert-butyl ether	Not Available	Not Available
n-pentane	1,500 ppm	Not Available
1-pentanol	Not Available	Not Available
n-propanol	800 ppm	Not Available
isopropanol	2,000 ppm	Not Available
n-propyl acetate	1,700 ppm	Not Available
triethylamine	200 ppm	Not Available
methanol	6,000 ppm	Not Available


## Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
dimethyl sulfoxide	E	≤ 0.1 ppm
1-pentanol	E	≤ 0.1 ppm

## Notes:

Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.

## Exposure controls

<b>Appropriate engineering controls</b>	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment.</p>
<b>Personal protection</b>	
<b>Eye and face protection</b>	<ul style="list-style-type: none"> <li>▶ Safety glasses with side shields.</li> <li>▶ Chemical goggles.</li> <li>▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.</li> </ul>
<b>Skin protection</b>	See Hand protection below
<b>Hands/feet protection</b>	<ul style="list-style-type: none"> <li>▶ Wear chemical protective gloves, e.g. PVC.</li> <li>▶ Wear safety footwear or safety gumboots, e.g. Rubber</li> </ul> <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care.</p>
<b>Body protection</b>	See Other protection below
<b>Other protection</b>	<ul style="list-style-type: none"> <li>▶ Overalls.</li> <li>▶ Eyewash unit.</li> <li>▶ Barrier cream.</li> <li>▶ Skin cleansing cream.</li> </ul>

## Recommended material(s)

## GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

The effect(s) of the following substance(s) are taken into account in the **computer-generated** selection:

Canada Cannabis Residual Solvent Mix 1

Material	CPI
BUTYL	C
BUTYL/NEOPRENE	C
CPE	C
HYPALON	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C

## Respiratory protection

Type AX Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required. Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	AX-AUS	-	AX-PAPR-AUS / Class 1
up to 50 x ES	-	AX-AUS / Class 1	-
up to 100 x ES	-	AX-2	AX-PAPR-2 ^

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO<sub>2</sub>), G = Agricultural chemicals, K = Ammonia(NH<sub>3</sub>), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

▶ Cartridge respirators should never be used for emergency ingress or in areas

Continued...

## Canada Cannabis Residual Solvent Mix 1

NITRILE	C
NITRILE+PVC	C
PE	C
PE/EVAL/PE	C
PVA	C
PVC	C
PVDC/PE/PVDC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON	C
VITON/BUTYL	C
VITON/CHLOROBUTYL	C
VITON/NEOPRENE	C

\* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

C: Poor to Dangerous Choice for other than short term immersion

**NOTE:** As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -

\* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

- of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
  - ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

## SECTION 9 Physical and chemical properties

### Information on basic physical and chemical properties

<b>Appearance</b>	clear liquid		
<b>Physical state</b>	Liquid	<b>Relative density (Water = 1)</b>	0.791
<b>Odour</b>	Not Available	<b>Partition coefficient n-octanol / water</b>	Not Available
<b>Odour threshold</b>	Not Available	<b>Auto-ignition temperature (°C)</b>	385
<b>pH (as supplied)</b>	Not Available	<b>Decomposition temperature</b>	Not Available
<b>Melting point / freezing point (°C)</b>	-93.9	<b>Viscosity (cSt)</b>	Not Available
<b>Initial boiling point and boiling range (°C)</b>	65	<b>Molecular weight (g/mol)</b>	Not Available
<b>Flash point (°C)</b>	11	<b>Taste</b>	Not Available
<b>Evaporation rate</b>	5.9 Not Available	<b>Explosive properties</b>	Not Available
<b>Flammability</b>	HIGHLY FLAMMABLE.	<b>Oxidising properties</b>	Not Available
<b>Upper Explosive Limit (%)</b>	36.5	<b>Surface Tension (dyn/cm or mN/m)</b>	Not Available
<b>Lower Explosive Limit (%)</b>	6.7	<b>Volatile Component (%vol)</b>	Not Available
<b>Vapour pressure (kPa)</b>	12.93	<b>Gas group</b>	Not Available
<b>Solubility in water</b>	Miscible	<b>pH as a solution (1%)</b>	Not Available
<b>Vapour density (Air = 1)</b>	1.1	<b>VOC g/L</b>	Not Available

## SECTION 10 Stability and reactivity

<b>Reactivity</b>	See section 7
<b>Chemical stability</b>	<ul style="list-style-type: none"> <li>▶ Static induced flash fires have happened when filling plastic containers with methanol / water solutions with as low as 30% methanol content.</li> <li>▶ Unstable in the presence of incompatible materials.</li> <li>▶ Product is considered stable.</li> <li>▶ Hazardous polymerisation will not occur.</li> </ul>
<b>Possibility of hazardous reactions</b>	See section 7
<b>Conditions to avoid</b>	See section 7
<b>Incompatible materials</b>	See section 7
<b>Hazardous decomposition products</b>	See section 5



## Canada Cannabis Residual Solvent Mix 1

## SECTION 11 Toxicological information

## Information on toxicological effects

Inhaled	<p>There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs.</p> <p>The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Isobutanol appears to be more toxic than n-butyl alcohol. It may result in narcosis and death.</p> <p>Minor but regular methanol exposures may effect the central nervous system, optic nerves and retinae. Symptoms may be delayed, with headache, fatigue, nausea, blurring of vision and double vision. Continued or severe exposures may cause damage to optic nerves, which may become severe with permanent visual impairment even blindness resulting.</p> <p><b>WARNING:</b> Methanol is only slowly eliminated from the body and should be regarded as a cumulative poison which cannot be made non-harmful [CCINFO]</p> <p>Excessive inhalation of formic acid vapour can produce respiratory symptoms, headache, nausea and weakness, but the warning properties of formic acid helps to deter exposure and hence prevent systemic effects.</p> <p>The odour of isopropanol may give some warning of exposure, but odour fatigue may occur. Inhalation of isopropanol may produce irritation of the nose and throat with sneezing, sore throat and runny nose.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects.</p>
Ingestion	<p>There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs.</p> <p>The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum.</p> <p>Following a single dose of isobutanol in rats, deaths were delayed for several days and hepatic degeneration was evident.</p> <p>Formic acid has a half life of 2.5hours and may cause salivation, oral burning sensation, nausea, vomiting, diarrhoea, tissue damage, bleeding, shock and even death in severe cases.</p> <p>Swallowing 10 millilitres of isopropanol may cause serious injury; 100 millilitres may be fatal if not properly treated. The adult single lethal dose is approximately 250 millilitres. Isopropanol is twice as poisonous as ethanol, and the effects caused are similar, except that isopropanol does not cause an initial feeling of well-being. Swallowing may cause nausea, vomiting and diarrhea; vomiting and stomach inflammation is more prominent with isopropanol than with ethanol.</p> <p><b>Toxic effects</b> may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (CSC13733)</p>
Skin Contact	<p>Skin contact with the material may produce toxic effects; systemic effects may result following absorption.</p> <p>There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>Application of isobutanol to human skin produced slight redness and blood congestion.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Skin contact with formic acid may cause irritation, burns, keloids and blisters. Inability to speak, breathing and swallowing difficulty may occur depending on route and site of exposure.</p> <p>511ipa</p> <p>There is strong evidence to suggest that this material, on a single contact with skin, can cause serious, irreversible damage of organs.</p>
Eye	<p>If applied to the eyes, this material causes severe eye damage.</p> <p>Instillation of isobutanol into the eye may cause moderate to severe irritation but no permanent injury to the cornea.</p> <p>510meth</p> <p>Eye contact with formic acid liquid or its high vapour concentrations will produce irritation, inflamed conjunctiva with reddened eye and possibly corneal burns.</p> <p>Isopropanol vapour may cause mild eye irritation at 400 parts per million. Splashes may cause severe eye irritation, possible burns to the cornea and eye damage. Eye contact may cause tearing and blurring of vision.</p>
Chronic	<p>Based on experiments and other information, there is ample evidence to presume that exposure to this material can cause genetic defects that can be inherited.</p> <p>Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material.</p> <p>Oral exposure of rats to isobutanol caused cancers of the gullet and stomach, liver or blood (myelogenous leukaemia). Abnormal non-cancer growths were also more common in those animals exposed to isobutanol.</p> <p>Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision. Liver and/or kidney injury may also result.</p> <p>Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents.</p> <p>Chronic occupational exposures to formic acid may cause nausea and albumin or blood in the urine.</p> <p>Long term, or repeated exposure of isopropanol may cause inco-ordination and tiredness.</p> <p>Repeated inhalation exposure to isopropanol may produce sleepiness, inco-ordination and liver degeneration. Animal data show developmental effects only at exposure levels that produce toxic effects in adult animals. Isopropanol does not cause genetic damage.</p>

Canada Cannabis Residual Solvent Mix 1	<b>TOXICITY</b>	<b>IRRITATION</b>
	Not Available	Not Available
acetic acid glacial	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: 1060 mg/kg <sup>[2]</sup>	Eye (rabbit): 0.05mg (open)-SEVERE
	Oral (rat) LD50: 3310 mg/kg <sup>[2]</sup>	Skin (human):50mg/24hr - mild Skin (rabbit):525mg (open)-SEVERE
anisole	<b>TOXICITY</b>	<b>IRRITATION</b>
	Inhalation (mouse) LC50: 1.5105 mg/l/2h <sup>[2]</sup>	Skin (rabbit): 500 mg/24 h - Moderate

## Canada Cannabis Residual Solvent Mix 1

	Inhalation (rat) LC50: >5 mg/l <sup>[2]</sup>	
	Oral (guinea pig) LD50: 2500 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: 3700 mg/kg <sup>[2]</sup>	
n-butanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	25 mg/kg <sup>[2]</sup>	Eye (human): 50 ppm - irritant
	Dermal (rabbit) LD50: 3400 mg/kg <sup>[2]</sup>	Eye (rabbit): 1.6 mg-SEVERE
	Inhalation (rat) LC50: 24 mg/l/4H <sup>[2]</sup>	Eye (rabbit): 24 mg/24h-SEVERE
	Oral (hamster) LD50: =1200 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irreversible damage) <sup>[1]</sup>
	Oral (rat) LD50: 790 mg/kg <sup>[2]</sup>	Skin (rabbit): 405 mg/24h-moderate
		Skin: adverse effect observed (irritating) <sup>[1]</sup>
2-butanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	dermal (rat) LD50: >2000 mg/kg <sup>[2]</sup>	Eye (rabbit): 100 mg/24hr-moderate
	Inhalation (rat) LC50: 48.5 mg/l/4H <sup>[2]</sup>	Eye (rabbit): 16 mg open.
	Oral (rabbit) LD50: =4900 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
		Skin (rabbit): 500 mg/24 hr - mild
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
n-butyl acetate	<b>TOXICITY</b>	<b>IRRITATION</b>
	200 mg/kg <sup>[2]</sup>	Eye ( human): 300 mg
	6000 mg/kg <sup>[1]</sup>	Eye (rabbit): 20 mg (open)-SEVERE
	Dermal (rabbit) LD50: 3200 mg/kg <sup>[2]</sup>	Eye (rabbit): 20 mg/24h - moderate
	Inhalation (rat) LC50: 389.55501 mg/l/4h <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (guinea pig) LD50: 4700 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg/24h-moderate
	Oral (rabbit) LD50: 3200 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (rat) LD50: =10700 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =12700 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: 10768 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: 13100 mg/kg <sup>[2]</sup>		
dimethyl sulfoxide	<b>TOXICITY</b>	<b>IRRITATION</b>
	3100 mg/kg <sup>[2]</sup>	Not Available
	dermal (rat) LD50: 40000 mg/kg <sup>[2]</sup>	
	Inhalation (rat) LC50: >1.6 mg/l/4H <sup>[2]</sup>	
Oral (rat) LD50: =14500 mg/kg <sup>[2]</sup>		
ethanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	1.40 mg/kg <sup>[2]</sup>	Eye (rabbit): 500 mg SEVERE
	1400 mg/kg <sup>[2]</sup>	Eye (rabbit):100mg/24hr-moderate
	4070 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	4070 mg/kg <sup>[2]</sup>	Skin (rabbit):20 mg/24hr-moderate
	5100 mg/kg <sup>[2]</sup>	Skin (rabbit):400 mg (open)-mild
	6030 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	6030 mg/kg <sup>[2]</sup>	
	6080 mg/kg <sup>[2]</sup>	
	6080 mg/kg <sup>[2]</sup>	
	9200 mg/kg <sup>[2]</sup>	
	9710 mg/kg <sup>[2]</sup>	
	Inhalation (rat) LC50: 0 mg/l/10h <sup>[2]</sup>	
	Inhalation (rat) LC50: 124.7 mg/l/4H <sup>[2]</sup>	
	Inhalation (rat) LC50: 63926.976 mg/l/4h <sup>[2]</sup>	
	mg/kg <sup>[2]</sup>	
Oral (rat) LD50: =1501 mg/kg <sup>[2]</sup>		
Oral (rat) LD50: 7060 mg/kg <sup>[2]</sup>		

## Canada Cannabis Residual Solvent Mix 1

ethyl acetate	<b>TOXICITY</b>	<b>IRRITATION</b>
	400 mg/kg <sup>[2]</sup>	Eye (human): 400 ppm
	Inhalation (rat) LC50: 3196.3488 mg/l/8h <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (guinea pig) LD50: 5500 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (mouse) LD50: 4100 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: 5620 mg/kg <sup>[2]</sup>		
diethyl ether	<b>TOXICITY</b>	<b>IRRITATION</b>
	200 mg/kg <sup>[2]</sup>	Eye (rabbit): 100 mg - moderate
	260 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Dermal (rabbit) LD50: >20000 mg/kg <sup>[2]</sup>	Skin (rabbit): 360 mg (open)-mild
	Inhalation (mouse) LC50: 97.5 mg/l/3H <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation (rat) LC50: 36458.3535 mg/l/2h <sup>[2]</sup>	
Oral (rat) LD50: 1211 mg/kg <sup>[2]</sup>		
ethyl formate	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rabbit) LD50: 2075 mg/kg <sup>[2]</sup>	EYE (RABBIT): 100 MG/24H - moderate
	Oral (rat) LD50: 1850 mg/kg <sup>[2]</sup>	Eye (rabbit): 20 mg (open)
		Skin (rabbit): 460 mg(open) mild
formic acid	<b>TOXICITY</b>	<b>IRRITATION</b>
	2.44 mg/kg <sup>[2]</sup>	Eye (rabbit): 122 mg - SEVERE
	2200 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Inhalation (rat) LC50: 0.9375 mg/l/15mE <sup>[2]</sup>	Skin (rabbit): 610 (open) - mild
	Inhalation (rat) LC50: 7.4 mg/l/4H <sup>[2]</sup>	Skin: adverse effect observed (corrosive) <sup>[1]</sup>
	Oral (mouse) LD50: =1920 mg/kg <sup>[2]</sup>	
	Oral (mouse) LD50: 700 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =1830 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: =730 mg/kg <sup>[2]</sup>		
Oral (rat) LD50: 1100 mg/kg <sup>[2]</sup>		
n-heptane	<b>TOXICITY</b>	<b>IRRITATION</b>
	1000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	Inhalation (rat) LC50: 103 mg/l/4H <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
isobutyl acetate	<b>TOXICITY</b>	<b>IRRITATION</b>
8000 mg/kg <sup>[2]</sup>		Skin(rabbit): 500 mg open mild
isopropyl acetate	<b>TOXICITY</b>	<b>IRRITATION</b>
	Dermal (rabbit) LD50: >20000 mg/kg <sup>[2]</sup>	Eye (human): 200 ppm/15m
	Inhalation (rat) LC50: 101.2 mg/l/8hm <sup>[2]</sup>	Eye (rabbit): 500 mg open
	Oral (rabbit) LD50: =6945 mg/kg <sup>[2]</sup>	Eye (rabbit): 500 mg/24h - mild
		Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
		Skin (rabbit): 500 mg/24h - mild
		Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
methyl acetate	<b>TOXICITY</b>	<b>IRRITATION</b>
	Oral (rat) LD50: >5000 mg/kg <sup>[2]</sup>	Eye (rabbit): 100 mg/24h-moderate
		Skin (rabbit): 20 mg/24h - mild
		Skin (rabbit): 500 mg/24h - mild
iso-amyl alcohol	<b>TOXICITY</b>	<b>IRRITATION</b>
	~184 mg/kg <sup>[2]</sup>	Eye (human): 150 ppm
	~202.7 mg/kg <sup>[2]</sup>	EYE (RABBIT): 20 MG/24H - moderate
	150 mg/kg <sup>[2]</sup>	SKIN (RABBIT): 20 MG/24H - moderate
	Dermal (rabbit) LD50: 3212 mg/kg <sup>[2]</sup>	
Oral (rabbit) LD50: 3438 mg/kg <sup>[2]</sup>		
Oral (rat) LD50: 1300 mg/kg <sup>[2]</sup>		

## Canada Cannabis Residual Solvent Mix 1

isobutanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	=1400 mg/kg <sup>[2]</sup>	Eye (rabbit): 2 20 mg/24h-moderate
	=1410 mg/kg <sup>[2]</sup>	Eye (rabbit): 2 mg/24h - SEVERE
	=3000 mg/kg <sup>[2]</sup>	Skin (rabbit): mg (open)-SEVERE
	=3750 mg/kg <sup>[2]</sup>	
	Dermal (rabbit) LD50: 3400 mg/kg <sup>[2]</sup>	
	Inhalation (rat) LC50: 19.2 mg/l/4h <sup>[2]</sup>	
	Oral (mouse) LD50: 3500 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =3100 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =3350 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: >2830 mg/kg <sup>[2]</sup>		
Oral (rat) LD50: 2460 mg/kg <sup>[2]</sup>		
methyl tert-butyl ether	<b>TOXICITY</b>	<b>IRRITATION</b>
	1000 mg/kg <sup>[2]</sup>	Not Available
	Inhalation (mouse) LC50: 14 mg/l/2h <sup>[2]</sup>	
	Inhalation (mouse) LC50: 15.07 mg/l/2h <sup>[2]</sup>	
	Inhalation (rat) LC50: 23549.099784 mg/l/4h <sup>[2]</sup>	
	Inhalation (rat) LC50: 41 mg/l/4h <sup>[2]</sup>	
	Oral (rat) LD50: =3865.9 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =4000 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: >2000 mg/kg <sup>[2]</sup>		
n-pentane	<b>TOXICITY</b>	<b>IRRITATION</b>
	130000 mg/kg <sup>[2]</sup>	Not Available
	90000 mg/kg <sup>[2]</sup>	
	Inhalation (rat) LC50: 364 mg/l/4h <sup>[2]</sup>	
Oral (rat) LD50: >2000 mg/kg <sup>[1]</sup>		
1-pentanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	14000 mg/kg <sup>[2]</sup>	Eye (rabbit): 20 mg/24h moderate
	Dermal (rabbit) LD50: 3600 mg/kg <sup>[2]</sup>	Eye (rabbit): 81 mg SEVERE
	Oral (rat) LD50: 2200 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irreversible damage) <sup>[1]</sup>
	Oral (rat) LD50: 370 mg/kg <sup>[2]</sup>	Skin (rabbit): 20 mg/24h-moderate
	Skin (rabbit): 3200/24h SEVERE	
	Skin: adverse effect observed (irritating) <sup>[1]</sup>	
n-propanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	5700 mg/kg <sup>[2]</sup>	Eye (rabbit): 20 mg/24h moderate
	Dermal (rabbit) LD50: 5040 mg/kg <sup>[2]</sup>	Eye (rabbit): 4 mg open SEVERE
	Oral (mouse) LD50: 6800 mg/kg <sup>[2]</sup>	Skin (rabbit): 20 mg/24h moderate
	Oral (rat) LD50: =8000 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg open mild
	Oral (rat) LD50: 1870 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: 3730 mg/kg <sup>[2]</sup>		
isopropanol	<b>TOXICITY</b>	<b>IRRITATION</b>
	223 mg/kg <sup>[2]</sup>	Eye (rabbit): 10 mg - moderate
	Inhalation (rat) LC50: 72.6 mg/l/4h <sup>[2]</sup>	Eye (rabbit): 100 mg - SEVERE
	Oral (dog) LD50: =4828 mg/kg <sup>[2]</sup>	Eye (rabbit): 100mg/24hr-moderate
	Oral (mouse) LD50: =4475 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg - mild
	Oral (mouse) LD50: 3600 mg/kg <sup>[2]</sup>	
	Oral (rabbit) LD50: 6410 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =4396 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =5045 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: =5338 mg/kg <sup>[2]</sup>		

## Canada Cannabis Residual Solvent Mix 1

	TOXICITY	IRRITATION
n-propyl acetate	1000 mg/kg <sup>[2]</sup>	Eye (rabbit): 500 mg/24h - mild
	8000 mg/kg <sup>[2]</sup>	Eye: adverse effect observed (irritating) <sup>[1]</sup>
	Oral (mouse) LD50: 8300 mg/kg <sup>[2]</sup>	Skin (rabbit): 500 mg (open)- mild
	Oral (rabbit) LD50: 6640 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	Oral (rat) LD50: 9370 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: 9800 mg/kg <sup>[2]</sup>	
triethylamine	1000 mg/kg <sup>[2]</sup>	Eye (rabbit): 0.25 mg/24h SEVERE
	Dermal (rabbit) LD50: 570 mg/kg <sup>[2]</sup>	Eye(rabbit): 50ppm/30d int SEVERE
	Oral (rat) LD50: =460 mg/kg <sup>[2]</sup>	Skin (rabbit): 365 mg open mild
methanol	=11000 mg/kg <sup>[2]</sup>	Eye (rabbit): 100 mg/24h-moderate
	=420 mg/kg <sup>[2]</sup>	Eye (rabbit): 40 mg-moderate
	=7000 mg/kg <sup>[2]</sup>	Eye: no adverse effect observed (not irritating) <sup>[1]</sup>
	=7500 mg/kg <sup>[2]</sup>	Skin (rabbit): 20 mg/24 h-moderate
	=7500 mg/kg <sup>[2]</sup>	Skin: no adverse effect observed (not irritating) <sup>[1]</sup>
	=9500 mg/kg <sup>[2]</sup>	
	>=4000-7000 mg/kg <sup>[2]</sup>	
	300 mg/kg <sup>[2]</sup>	
	3429 mg/kg <sup>[2]</sup>	
	6422 mg/kg <sup>[2]</sup>	
	Inhalation (rat) LC50: 36208.63875 mg/l/1H <sup>[2]</sup>	
	Oral (dog) LD50: =8000 mg/kg <sup>[2]</sup>	
	Oral (monkey) LD50: =7000 mg/kg <sup>[2]</sup>	
	Oral (mouse) LD50: =7300 mg/kg <sup>[2]</sup>	
	Oral (rabbit) LD50: =14200 mg/kg <sup>[2]</sup>	
	Oral (rabbit) LD50: =14400 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =10300 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =12800 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =5300 mg/kg <sup>[2]</sup>	
	Oral (rat) LD50: =5800 mg/kg <sup>[2]</sup>	
Oral (rat) LD50: =6200 mg/kg <sup>[2]</sup>		
Oral (rat) LD50: =7000 mg/kg <sup>[2]</sup>		
Oral (rat) LD50: =9100 mg/kg <sup>[2]</sup>		
Oral (rat) LD50: 5628 mg/kg <sup>[2]</sup>		
<b>Legend:</b>	1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances	

<b>ACETIC ACID GLACIAL</b>	Prolonged or repeated exposure to acetic acid may produce irritation and/ or corrosion at the site of contact as well as systemic toxicity. Prolonged inhalation exposure results in muscle imbalance, increase in blood cholinesterase activity, decrease in albumin and decreased growth but no reproductive or foetal toxicity, according to animal testing.
<b>ANISOLE</b>	<b>NOTE:</b> Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA. Somnolence, haematuria, tremor, convulsions, excitement, ataxia, liver changes, general anaesthesia, changes in liver weight, endocrine changes recorded.
<b>N-BUTANOL</b>	For n-butanol: Acute toxicity: In animal testing, n-butanol (BA) was only slightly toxic, following exposure by swallowing, skin contact or irritation. Animal testing and human experience suggest that n-butanol is moderately irritating to the skin but severely irritating to the eye. Human studies show that BA is not likely to cause skin sensitization. Warning of exposure occurs before irritation of the nose, because n-butanol has an odour which can be detected below concentration levels cause irritation. Repeat dose toxicity: Animal testing showed temporarily reduction in activity and food intake following repeated exposure to BA, but otherwise there was no evidence of chronic toxicity. Reproductive toxicity: Several animal studies indicate BA does not possess reproductive toxicity, and does not affect fertility. Developmental toxicity: BA only caused developmental changes and toxic effects on the foetus near or at levels that were toxic to the mother. Genetic toxicity: Testing shows that BA does not possess genetic toxicity. Cancer-causing potential: Based on negative results from testing for potential of n-butanol to cause mutations and chromosomal aberrations, BA has a very small potential for causing cancer.

## Canada Cannabis Residual Solvent Mix 1

<b>N-BUTYL ACETATE</b>	<p>Generally, linear and branched-chain alkyl esters are hydrolysed to their component alcohols and carboxylic acids in the intestinal tract, blood and most tissues throughout the body. Following hydrolysis the component alcohols and carboxylic acids are metabolized</p> <p>Oral acute toxicity studies have been reported for 51 of the 67 esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids. The very low oral acute toxicity of this group of esters is demonstrated by oral LD50 values greater than 1850 mg/kg bw</p> <p>Genotoxicity studies have been performed in vitro using the following esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids: methyl acetate, butyl acetate, butyl stearate and the structurally related isoamyl formate and demonstrates that these substances are not genotoxic.</p> <p>The JEFCA Committee concluded that the substances in this group would not present safety concerns at the current levels of intake the esters of aliphatic acyclic primary alcohols and aliphatic linear saturated carboxylic acids are generally used as flavouring substances up to average maximum levels of 200 mg/kg. Higher levels of use (up to 3000 mg/kg) are permitted in food categories such as chewing gum and hard candy.</p>
<b>DIMETHYL SULFOXIDE</b>	<p>DMSO (dimethyl sulfoxide) is absorbed following inhalation, through the skin and after oral intake. Topical application causes mild redness, burning, stinging and itching, which disappear after discontinuation. It is mildly irritating to the eye and may induce tear formation with a brief burning sensation. Long term exposure may cause poor weight gain and changes in the blood and eye.</p> <p>Extensive monitoring of humans has shown that DMSO does not affect human kidney function. Although it causes an increase in urine production, no sign of kidney damage or cancer has been found. Repeated skin application can cause occasional skin irritation, garlicy breath and body odour. It is metabolised in the body and excreted in the urine, faeces, through the breath and skin.</p>
<b>ETHYL FORMATE</b>	Somonolence, dyspnae and gastritis recorded.
<b>FORMIC ACID</b>	No significant acute toxicological data identified in literature search.
<b>ISOBUTYL ACETATE</b>	Inhalation (rat): 8000ppm/4h Skin(rabbit): 500 mg/24hr moderate
<b>METHYL ACETATE</b>	<p>For methyl acetate:</p> <p>Acute toxicity: Methyl acetate is a water-soluble substance with high volatility. In animal testing, the substance has narcotic properties at high concentration; this is soon reversible after exposure ends.</p> <p>Methyl acetate is absorbed via the lungs. After absorption, it is broken down to methanol and acetic acid. The main breakdown product is methanol, which is itself metabolized to formic acid.</p>
<b>ISO-AMYL ALCOHOL</b>	<p>The Branched Chain Saturated Alcohol (BCSA) group of fragrance ingredients was evaluated for safety. The fifteen materials tested have low acute toxicity. Following repeated application, seven materials had low whole-body toxicity.</p> <p>In humans, no evidence of skin irritation was found at concentrations of 2-10%. Undiluted, 11 materials evaluated caused moderate to severe eye irritation. Olfaction effects, conjunctival irritation, antipsychotic effects, respiratory tract changes, fatty liver degeneration, urinary tract changes, blood changes recorded.</p>
<b>METHYL TERT-BUTYL ETHER</b>	<p>For methyl tert-butyl ether (MTBE): In particular climates (such as subarctic), susceptible people may be adversely affected by volatile emissions from MTBE-blended gasoline. Animal testing shows that MTBE has low acute toxicity, and the main affected system is the nervous system. In humans, no symptoms were observed in testing at concentrations of 5mg/m3 for 1 hour. After the introduction of MTBE-blended gasoline in Alaska, there were complaints of headaches, irritation of the eye, nose and throat, cough, nausea, dizziness and spaciness.</p>
<b>N-PENTANE</b>	[GENIUM and CCINFO, V.W.&R.]
<b>ISOPROPANOL</b>	Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled.
<b>TRIETHYLAMINE</b>	<p>Overexposure to most of these materials may cause adverse health effects.</p> <p>Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient.</p> <p>There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing.</p> <p>Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain. Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, inflammation of the bronchi and lungs, and possible lung damage. Inhalation (human) TCLo: 12mg/m3/11W contin. Skin (rabbit)mild</p>
<b>ACETIC ACID GLACIAL &amp; N-BUTANOL &amp; 2-BUTANOL &amp; DIMETHYL SULFOXIDE &amp; ETHYL ACETATE &amp; ETHYL FORMATE &amp; FORMIC ACID &amp; ISOPROPYL ACETATE &amp; ISO-AMYL ALCOHOL &amp; ISOBUTANOL &amp; 1-PENTANOL &amp; ISOPROPANOL &amp; TRIETHYLAMINE</b>	Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia.
<b>ACETIC ACID GLACIAL &amp; FORMIC ACID</b>	<p>For acid mists, aerosols, vapours</p> <p>Test results suggest that eukaryotic cells are susceptible to genetic damage when the pH falls to about 6.5. Cells from the respiratory tract have not been examined in this respect. Mucous secretion may protect the cells of the airway from direct exposure to inhaled acidic mists (which also protects the stomach lining from the hydrochloric acid secreted there).</p>
<b>ACETIC ACID GLACIAL &amp; N-BUTANOL &amp; N-BUTYL ACETATE &amp; FORMIC ACID &amp; ISOBUTANOL &amp; 1-PENTANOL &amp; N-PROPANOL &amp; TRIETHYLAMINE</b>	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
<b>ACETIC ACID GLACIAL &amp; DIETHYL ETHER &amp; 1-PENTANOL</b>	The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.
<b>ANISOLE &amp; N-BUTANOL &amp; 2-BUTANOL &amp; N-BUTYL ACETATE &amp; DIMETHYL SULFOXIDE &amp; ETHANOL &amp; ETHYL FORMATE &amp; FORMIC ACID &amp; ISOBUTYL ACETATE &amp; ISOPROPYL ACETATE &amp; METHYL ACETATE &amp; ISO-AMYL ALCOHOL &amp; ISOBUTANOL &amp; N-PROPANOL</b>	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.

## Canada Cannabis Residual Solvent Mix 1

& ISOPROPANOL & N-PROPYL ACETATE & TRIETHYLAMINE & METHANOL	
DIMETHYL SULFOXIDE & ISOPROPYL ACETATE & N-PROPYL ACETATE	The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
ETHYL FORMATE & ISOBUTYL ACETATE & METHYL ACETATE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
METHYL TERT-BUTYL ETHER & ISOPROPANOL	The substance is classified by IARC as Group 3: <b>NOT</b> classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.

Acute Toxicity	✓	Carcinogenicity	✗
Skin Irritation/Corrosion	✓	Reproductivity	✓
Serious Eye Damage/Irritation	✓	STOT - Single Exposure	✓
Respiratory or Skin sensitisation	✗	STOT - Repeated Exposure	✗
Mutagenicity	✗	Aspiration Hazard	✗

**Legend:** ✗ – Data either not available or does not fill the criteria for classification  
 ✓ – Data available to make classification

## SECTION 12 Ecological information

## Toxicity

Canada Cannabis Residual Solvent Mix 1	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available

acetic acid glacial	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	>1-mg/L	2
	EC50	48	Crustacea	>1-mg/L	2
	EC50	72	Algae or other aquatic plants	>1-mg/L	2
	NOEC	72	Algae or other aquatic plants	1-mg/L	2

anisole	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	>1-mg/L	2
	EC50	48	Crustacea	27mg/L	2
	EC50	72	Algae or other aquatic plants	30mg/L	2
	EC10	72	Algae or other aquatic plants	15mg/L	2
NOEC	48	Crustacea	7.8mg/L	2	

n-butanol	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	1-376mg/L	2
	EC50	48	Crustacea	1-328mg/L	2
	EC50	96	Algae or other aquatic plants	225mg/L	2
	EC0	48	Crustacea	1-260mg/L	2
NOEC	504	Crustacea	4.1mg/L	2	

2-butanol	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	2-993mg/L	2
	EC50	48	Crustacea	308mg/L	2
	EC50	72	Algae or other aquatic plants	1-972mg/L	2
	EC0	96	Fish	1-848mg/L	2
NOEC	96	Fish	1-170mg/L	2	

n-butyl acetate	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96	Fish	18mg/L	2
	EC50	48	Crustacea	=32mg/L	1
	EC50	72	Algae or other aquatic plants	246mg/L	2
	EC90	72	Algae or other aquatic plants	1-540.7mg/L	2
NOEC	504	Crustacea	23.2mg/L	2	

## Canada Cannabis Residual Solvent Mix 1

dimethyl sulfoxide	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	>25000mg/L	2
	EC50	48	Crustacea	24600.0mg/L	2
	EC50	96	Algae or other aquatic plants	17.75mg/L	2
ethanol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	11-mg/L	2
	EC50	48	Crustacea	>10-mg/L	2
	EC50	96	Algae or other aquatic plants	ca.22-mg/L	2
ethyl acetate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	>75.6mg/L	2
	EC50	48	Crustacea	1-350mg/L	2
	NOEC	48	Algae or other aquatic plants	>1-mg/L	2
diethyl ether	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	2-560mg/L	2
	EC50	48	Crustacea	1378.63mg/L	5
	NOEC	504	Crustacea	100mg/L	2
ethyl formate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	>100mg/L	2
	EC50	48	Crustacea	280.276mg/L	2
	EC50	72	Algae or other aquatic plants	219.547mg/L	2
formic acid	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	1-720mg/L	2
	EC50	48	Crustacea	32.19mg/L	2
	EC50	72	Algae or other aquatic plants	>1-mg/L	2
n-heptane	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	5.738mg/L	2
	EC50	48	Crustacea	0.64mg/L	2
	EC50	72	Algae or other aquatic plants	4.338mg/L	2
isobutyl acetate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	16.6mg/L	2
	EC50	48	Crustacea	24.6mg/L	2
	EC50	72	Algae or other aquatic plants	246mg/L	2
isopropyl acetate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	400mg/L	2
	EC50	48	Crustacea	=110mg/L	1
	EC50	96	Algae or other aquatic plants	37.1mg/L	2
methyl acetate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	=250mg/L	1
	EC50	48	Crustacea	1-26.7mg/L	2
	EC50	72	Algae or other aquatic plants	>120mg/L	2
iso-amyl alcohol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	EC100	48	Crustacea	1-448.2mg/L	2
	NOEC	96	Fish	=100mg/L	1
	EC50	72	Algae or other aquatic plants	113mg/L	2

Continued...



## Canada Cannabis Residual Solvent Mix 1

	EC10	72	Algae or other aquatic plants	51.7mg/L	2
	NOEC	72	Algae or other aquatic plants	29mg/L	2
isobutanol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	1-430mg/L	2
	EC50	48	Crustacea	1-100mg/L	2
	EC50	72	Algae or other aquatic plants	1-799mg/L	2
	NOEC	504	Crustacea	4mg/L	5
methyl tert-butyl ether	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	1-54mg/L	2
	EC50	48	Crustacea	1-742mg/L	2
	EC50	96	Algae or other aquatic plants	184mg/L	2
	NOEC	120	Fish	2.5mg/L	2
n-pentane	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	4.26mg/L	2
	EC50	48	Crustacea	2.7mg/L	2
	EC50	72	Algae or other aquatic plants	1.26mg/L	2
	NOEC	72	Algae or other aquatic plants	4.549mg/L	2
1-pentanol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	>120mg/L	2
	EC50	48	Crustacea	>120mg/L	2
	EC50	72	Algae or other aquatic plants	113mg/L	2
	EC10	72	Algae or other aquatic plants	51.7mg/L	2
n-propanol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	3-800mg/L	2
	EC50	48	Crustacea	3-644mg/L	2
isopropanol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	9-640mg/L	2
	EC50	48	Crustacea	12500mg/L	5
	EC50	72	Algae or other aquatic plants	>1000mg/L	1
	EC0	24	Crustacea	5-102mg/L	2
n-propyl acetate	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	60mg/L	2
	EC50	48	Crustacea	91.5mg/L	2
	EC50	72	Algae or other aquatic plants	672mg/L	2
	EC0	24	Crustacea	=35mg/L	1
triethylamine	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	24mg/L	2
	EC50	48	Crustacea	17mg/L	2
	EC50	96	Algae or other aquatic plants	1.167mg/L	2
	NOEC	72	Algae or other aquatic plants	1.1mg/L	2
methanol	<b>Endpoint</b>	<b>Test Duration (hr)</b>	<b>Species</b>	<b>Value</b>	<b>Source</b>
	LC50	96	Fish	11-850mg/L	2
	EC50	48	Crustacea	>10-mg/L	2
	EC50	96	Algae or other aquatic plants	ca.22-mg/L	2
	NOEC	504	Crustacea	4-380mg/L	2

**Legend:** Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

Continued...

## Canada Cannabis Residual Solvent Mix 1

Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.

Wastes resulting from use of the product must be disposed of on site or at approved waste sites.

For n-Heptane: Log Kow: 4.66; Koc: 2400-8100; Half-life (hr) Air: 52.8; Half-life (hr) Surface Water: 2.9-312; Henry's atm m<sup>3</sup>/mol: 2.06; BOD 5 (if unstated): 1.92; COD: 0.06; BCF: 340-2000; Log BCF: 2.53-3.31.

Atmospheric Fate: Breakdown of n-heptane by sunlight is not expected to be an important fate process. If released to the atmosphere, n-heptane is expected to exist entirely in the vapor phase, in ambient air. Reactions hydroxyl radicals in the atmosphere have been shown to be important.

For Acetic Acid: Acetic acid and its salts (the acetates) can be grouped together because of their close structural relationships, their natural occurrence in plants and animals, and their fundamental role in cell metabolism.

Atmospheric Fate: Acetic acid is degraded photochemically in the atmosphere to produce hydroxyl radicals (estimated typical half-life of 22 days). Physical removal of acetates on atmospheric particulates may occur via wet or dry deposition.

Aquatic Fate: Natural water will neutralize dilute solutions of acetic acid.

For Methanol: Log Kow: -0.82 to -0.66; Koc: 1; Henry's Law Constant: 4.55x10<sup>-6</sup> atm-cu m/mole; Vapor Pressure: 127 mm Hg; BCF: < 10.

Atmospheric Fate: Methanol is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase methanol is broken down in the atmosphere by reactions with hydroxyl radicals; the half-life for this reaction in air is estimated to be 17 days.

Terrestrial Fate: Methanol is expected to have very high mobility in soil.

for formic acid (and formates)

In the atmosphere, formic acid reacts with photochemically produced hydroxyl radicals (half-life 34 days).

Formic acid is highly soluble in water, it is non-persistent (half-life 2-20 days).

Leaches into some soils where it is expected to be biodegradable.

Does not concentrate in food chain

**DO NOT discharge into sewer or waterways.**

## Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
acetic acid glacial	LOW	LOW
anisole	LOW	LOW
n-butanol	LOW (Half-life = 54 days)	LOW (Half-life = 3.65 days)
2-butanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
n-butyl acetate	LOW	LOW
dimethyl sulfoxide	HIGH	HIGH
ethanol	LOW (Half-life = 2.17 days)	LOW (Half-life = 5.08 days)
ethyl acetate	LOW (Half-life = 14 days)	LOW (Half-life = 14.71 days)
diethyl ether	LOW	LOW
ethyl formate	LOW	LOW
formic acid	LOW (Half-life = 14 days)	LOW (Half-life = 55.46 days)
n-heptane	LOW	LOW
isobutyl acetate	LOW	LOW
isopropyl acetate	LOW	LOW
methyl acetate	LOW	LOW
iso-amyl alcohol	LOW	LOW
isobutanol	LOW (Half-life = 14.42 days)	LOW (Half-life = 4.15 days)
methyl tert-butyl ether	HIGH (Half-life = 360 days)	LOW (Half-life = 11.04 days)
n-pentane	LOW	LOW
1-pentanol	LOW	LOW
n-propanol	LOW	LOW
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
n-propyl acetate	LOW	LOW
triethylamine	HIGH	HIGH
methanol	LOW	LOW

## Bioaccumulative potential

Ingredient	Bioaccumulation
acetic acid glacial	LOW (LogKOW = -0.17)
anisole	LOW (LogKOW = 2.11)
n-butanol	LOW (BCF = 0.64)
2-butanol	LOW (BCF = 1.71)
n-butyl acetate	LOW (BCF = 14)
dimethyl sulfoxide	LOW (BCF = 0.4)
ethanol	LOW (LogKOW = -0.31)
ethyl acetate	HIGH (BCF = 3300)
diethyl ether	LOW (BCF = 9.1)
ethyl formate	LOW (BCF = 0.88)
formic acid	LOW (BCF = 0.22)
n-heptane	HIGH (LogKOW = 4.66)
isobutyl acetate	LOW (LogKOW = 1.78)
isopropyl acetate	LOW (BCF = 1.8)

## Canada Cannabis Residual Solvent Mix 1

Ingredient	Bioaccumulation
methyl acetate	LOW (LogKOW = 0.18)
iso-amyl alcohol	LOW (LogKOW = 1.16)
isobutanol	LOW (LogKOW = 0.76)
methyl tert-butyl ether	LOW (BCF = 1.5)
n-pentane	LOW (BCF = 2.35)
1-pentanol	LOW (BCF = 1.74)
n-propanol	LOW (LogKOW = 0.25)
isopropanol	LOW (LogKOW = 0.05)
n-propyl acetate	LOW (BCF = 5.1)
triethylamine	LOW (BCF = 7.45)
methanol	LOW (BCF = 10)

## Mobility in soil

Ingredient	Mobility
acetic acid glacial	HIGH (KOC = 1)
anisole	LOW (KOC = 117.8)
n-butanol	MEDIUM (KOC = 2.443)
2-butanol	MEDIUM (KOC = 2.048)
n-butyl acetate	LOW (KOC = 20.86)
dimethyl sulfoxide	LOW (KOC = 4.411)
ethanol	HIGH (KOC = 1)
ethyl acetate	LOW (KOC = 6.131)
diethyl ether	LOW (KOC = 4.395)
ethyl formate	MEDIUM (KOC = 3.966)
formic acid	HIGH (KOC = 1)
n-heptane	LOW (KOC = 274.7)
isobutyl acetate	LOW (KOC = 17.48)
isopropyl acetate	LOW (KOC = 9.479)
methyl acetate	MEDIUM (KOC = 3.324)
iso-amyl alcohol	MEDIUM (KOC = 3.777)
isobutanol	MEDIUM (KOC = 2.048)
methyl tert-butyl ether	LOW (KOC = 5.258)
n-pentane	LOW (KOC = 80.77)
1-pentanol	LOW (KOC = 4.506)
n-propanol	HIGH (KOC = 1.325)
isopropanol	HIGH (KOC = 1.06)
n-propyl acetate	LOW (KOC = 11.31)
triethylamine	LOW (KOC = 107.2)
methanol	HIGH (KOC = 1)

## SECTION 13 Disposal considerations

## Waste treatment methods

Product / Packaging disposal	<ul style="list-style-type: none"> <li>▶ Containers may still present a chemical hazard/ danger when empty.</li> <li>▶ Return to supplier for reuse/ recycling if possible.</li> </ul> <p>Otherwise:</p> <ul style="list-style-type: none"> <li>▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.</li> <li>▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.</li> </ul> <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> <li>▶ Reduction</li> <li>▶ Reuse</li> <li>▶ Recycling</li> <li>▶ Disposal (if all else fails)</li> </ul> <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.</p> <ul style="list-style-type: none"> <li>▶ <b>DO NOT allow wash water from cleaning or process equipment to enter drains.</b></li> <li>▶ It may be necessary to collect all wash water for treatment before disposal.</li> <li>▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.</li> <li>▶ Where in doubt contact the responsible authority.</li> </ul>
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## Canada Cannabis Residual Solvent Mix 1

- ▶ Recycle wherever possible or consult manufacturer for recycling options.
- ▶ Consult State Land Waste Authority for disposal.
- ▶ Bury or incinerate residue at an approved site.
- ▶ Recycle containers if possible, or dispose of in an authorised landfill.

## SECTION 14 Transport information

## Labels Required

	
Marine Pollutant	NO
HAZCHEM	*2WE

## Land transport (ADG)

UN number	1230	
UN proper shipping name	METHANOL	
Transport hazard class(es)	Class	3
	Subrisk	Not Applicable
Packing group	II	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	279
	Limited quantity	1 L

## Air transport (ICAO-IATA / DGR)

UN number	1230	
UN proper shipping name	Methanol	
Transport hazard class(es)	ICAO/IATA Class	3
	ICAO / IATA Subrisk	Not Applicable
	ERG Code	3L
Packing group	II	
Environmental hazard	Not Applicable	
Special precautions for user	Special provisions	A113
	Cargo Only Packing Instructions	364
	Cargo Only Maximum Qty / Pack	60 L
	Passenger and Cargo Packing Instructions	352
	Passenger and Cargo Maximum Qty / Pack	1 L
	Passenger and Cargo Limited Quantity Packing Instructions	Y341
	Passenger and Cargo Limited Maximum Qty / Pack	1 L

## Sea transport (IMDG-Code / GGVSee)

UN number	1230	
UN proper shipping name	METHANOL	
Transport hazard class(es)	IMDG Class	3
	IMDG Subrisk	Not Applicable
Packing group	II	
Environmental hazard	Not Applicable	
Special precautions for user	EMS Number	F-E , S-D
	Special provisions	279
	Limited Quantities	1 L

## Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

## SECTION 15 Regulatory information

Safety, health and environmental regulations / legislation specific for the substance or mixture

Continued...

## Canada Cannabis Residual Solvent Mix 1

**acetic acid glacial is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
Australian Inventory of Industrial Chemicals (AIIC)

**anisole is found on the following regulatory lists**

Australian Inventory of Industrial Chemicals (AIIC)

**n-butanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
Australian Inventory of Industrial Chemicals (AIIC)

**2-butanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**n-butyl acetate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**dimethyl sulfoxide is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
Australian Inventory of Industrial Chemicals (AIIC)

**ethanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**ethyl acetate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**diethyl ether is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
Australian Inventory of Industrial Chemicals (AIIC)  
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**ethyl formate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
Australian Inventory of Industrial Chemicals (AIIC)

**formic acid is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
Australian Inventory of Industrial Chemicals (AIIC)

**n-heptane is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
Australian Inventory of Industrial Chemicals (AIIC)

**isobutyl acetate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**isopropyl acetate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**methyl acetate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**iso-amyl alcohol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
Australian Inventory of Industrial Chemicals (AIIC)

**isobutanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

## Canada Cannabis Residual Solvent Mix 1

Australian Inventory of Industrial Chemicals (AIIC)

**methyl tert-butyl ether is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 2  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
 Australian Inventory of Industrial Chemicals (AIIC)  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**n-pentane is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 4  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australian Inventory of Industrial Chemicals (AIIC)

**1-pentanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australian Inventory of Industrial Chemicals (AIIC)

**n-propanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 6  
 Australian Inventory of Industrial Chemicals (AIIC)

**isopropanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australian Inventory of Industrial Chemicals (AIIC)  
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

**n-propyl acetate is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australian Inventory of Industrial Chemicals (AIIC)

**triethylamine is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australian Inventory of Industrial Chemicals (AIIC)

**methanol is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals  
 Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 5  
 Australian Inventory of Industrial Chemicals (AIIC)  
 Chemical Footprint Project - Chemicals of High Concern List

**National Inventory Status**

National Inventory	Status
Australia - AIIC	Yes
Australia Non-Industrial Use	No (acetic acid glacial; anisole; n-butanol; 2-butanol; n-butyl acetate; dimethyl sulfoxide; ethanol; ethyl acetate; diethyl ether; ethyl formate; formic acid; n-heptane; isobutyl acetate; isopropyl acetate; methyl acetate; iso-amyl alcohol; isobutanol; methyl tert-butyl ether; n-pentane; 1-pentanol; n-propanol; isopropanol; n-propyl acetate; triethylamine; methanol)
Canada - DSL	Yes
Canada - NDSL	No (acetic acid glacial; anisole; n-butanol; 2-butanol; n-butyl acetate; dimethyl sulfoxide; ethanol; ethyl acetate; diethyl ether; ethyl formate; formic acid; n-heptane; isobutyl acetate; isopropyl acetate; methyl acetate; iso-amyl alcohol; isobutanol; methyl tert-butyl ether; n-pentane; 1-pentanol; n-propanol; isopropanol; n-propyl acetate; triethylamine; methanol)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	Yes
Vietnam - NCI	Yes
Russia - ARIPS	Yes
<b>Legend:</b>	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing (see specific ingredients in brackets)

**SECTION 16 Other information**

Revision Date | 15/09/2020

Continued...

**Canada Cannabis Residual Solvent Mix 1****Initial Date** | 15/09/2020**Other information**

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

**Definitions and abbreviations**

PC – TWA: Permissible Concentration-Time Weighted Average

PC – STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit.

IDLH: Immediately Dangerous to Life or Health Concentrations

OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level

LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

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