



## RainX Xtreme -50 °C

### Recochem Inc.

Version No: 6.10

Safety Data Sheet according to WHMIS 2015 requirements

Issue Date: 08/04/2022

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S.GHS.CAN.EN

#### SECTION 1 Identification

##### Product Identifier

|                               |                     |
|-------------------------------|---------------------|
| Product name                  | RainX Xtreme -50 °C |
| Synonyms                      | 35-774RX            |
| Proper shipping name          | METHANOL            |
| Other means of identification | Not Available       |

##### Recommended use of the chemical and restrictions on use

|                          |                                             |
|--------------------------|---------------------------------------------|
| Relevant identified uses | Use according to manufacturer's directions. |
|--------------------------|---------------------------------------------|

##### Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

|                         |                                                      |
|-------------------------|------------------------------------------------------|
| Registered company name | Recochem Inc.                                        |
| Address                 | 8725 Holgate Crescent, Milton Ontario L9T 5G7 Canada |
| Telephone               | Not Available                                        |
| Fax                     | Not Available                                        |
| Website                 | <a href="http://recochem.com">recochem.com</a>       |
| Email                   | sds@recochem.com                                     |

##### Emergency phone number

|                             |                                                                                                                                                                                                                                                                                                                                                                                                                                                         |
|-----------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Association / Organisation  | POISON CONTROL/ANTİPOISON (24 heures/hours):                                                                                                                                                                                                                                                                                                                                                                                                            |
| Emergency telephone numbers | Alberta 1-800-332-1414<br>British Columbia 1-800-567-8911<br>Manitoba 1-855-776-4766<br>New Brunswick 911<br>Newfoundland and Labrador 1-866-727-1110<br>Northwest Territories 1-800-332-1414<br>Nova Scotia and Prince Edward Island 1-800-565-8161, 1-800-332-1414 or 911<br>Nunavut 1-800-268-9017<br>Ontario 1-800-268-9017<br>Quebec 1-800-463-5060<br>Saskatchewan 1-866-454-1212<br>Yukon Territory 867-393-8700<br>United States 1-800-222-1222 |

#### SECTION 2 Hazard(s) identification

##### Classification of the substance or mixture

|                |                                                                                                                                                                                                                                                                                                                                                          |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Classification | Serious Eye Damage/Eye Irritation Category 2A, Acute Toxicity (Dermal) Category 3, Specific Target Organ Toxicity - Single Exposure Category 1, Specific Target Organ Toxicity - Repeated Exposure Category 2, Flammable Liquids Category 2, Acute Toxicity (Inhalation) Category 3, Reproductive Toxicity Category 1B, Acute Toxicity (Oral) Category 3 |
|----------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

##### Label elements

|                     |        |
|---------------------|--------|
| Hazard pictogram(s) |        |
| Signal word         | Danger |

##### Hazard statement(s)

|      |                                |
|------|--------------------------------|
| H319 | Causes serious eye irritation. |
|------|--------------------------------|

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|      |                                                                    |
|------|--------------------------------------------------------------------|
| H311 | Toxic in contact with skin.                                        |
| H370 | Causes damage to organs.                                           |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H225 | Highly flammable liquid and vapour.                                |
| H331 | Toxic if inhaled.                                                  |
| H360 | May damage fertility or the unborn child.                          |
| H301 | Toxic if swallowed.                                                |

**Physical and Health hazard(s) not otherwise classified**

Not Applicable

**Precautionary statement(s) Prevention**

|      |                                                                                                |
|------|------------------------------------------------------------------------------------------------|
| P201 | Obtain special instructions before use.                                                        |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |
| P260 | Do not breathe mist/vapours/spray.                                                             |
| P264 | Wash all exposed external body areas thoroughly after handling.                                |
| P270 | Do not eat, drink or smoke when using this product.                                            |
| P271 | Use only outdoors or in a well-ventilated area.                                                |
| P280 | Wear protective gloves, protective clothing, eye protection and face protection.               |
| P240 | Ground and bond container and receiving equipment.                                             |
| P241 | Use explosion-proof electrical/ventilating/lighting/intrinsically safe equipment.              |
| P242 | Use non-sparking tools.                                                                        |
| P243 | Take action to prevent static discharges.                                                      |

**Precautionary statement(s) Response**

|                |                                                                                                                                  |
|----------------|----------------------------------------------------------------------------------------------------------------------------------|
| P301+P310      | IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.                                                     |
| P308+P311      | IF exposed or concerned: Call a POISON CENTER/doctor/physician/first aider.                                                      |
| P330           | Rinse mouth.                                                                                                                     |
| P370+P378      | In case of fire: Use alcohol resistant foam or fine spray/water fog to extinguish.                                               |
| P302+P352      | IF ON SKIN: Wash with plenty of water.                                                                                           |
| P305+P351+P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P304+P340      | IF INHALED: Remove person to fresh air and keep comfortable for breathing.                                                       |
| P337+P313      | If eye irritation persists: Get medical advice/attention.                                                                        |
| P361+P364      | Take off immediately all contaminated clothing and wash it before reuse.                                                         |
| P303+P361+P353 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].                         |

**Precautionary statement(s) Storage**

|           |                                              |
|-----------|----------------------------------------------|
| P403+P235 | Store in a well-ventilated place. Keep cool. |
| P405      | Store locked up.                             |

**Precautionary statement(s) Disposal**

|      |                                                                                                                                  |
|------|----------------------------------------------------------------------------------------------------------------------------------|
| P501 | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |
|------|----------------------------------------------------------------------------------------------------------------------------------|

Not Applicable

**SECTION 3 Composition / information on ingredients****Substances**

See section below for composition of Mixtures

**Mixtures**

| CAS No      | %[weight] | Name                                                 |
|-------------|-----------|------------------------------------------------------|
| 67-56-1     | 30-60     | <u>methanol</u>                                      |
| 127036-24-2 | 0.1-1     | <u>alcohols C11 ethoxylated, branched and linear</u> |

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

**SECTION 4 First-aid measures****Description of first aid measures**

|             |                                                                                                                                                                                                                                                                                                                                                                   |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Eye Contact | <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> </ul> |
|-------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                     | <ul style="list-style-type: none"> <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>▶ Quickly but gently, wipe material off skin with a dry, clean cloth.</li> <li>▶ Immediately 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>▶ <b>If swallowed do NOT induce vomiting.</b></li> <li>▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.</li> <li>▶ Observe the patient carefully.</li> <li>▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.</li> <li>▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.</li> <li>▶ Seek medical advice.</li> <li>▶ Avoid giving milk or oils.</li> <li>▶ Avoid giving alcohol.</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]

Methanol poisoning can be treated with fomepizole, or if unavailable, ethanol. Both drugs act to reduce the action of alcohol dehydrogenase on methanol by means of competitive inhibition. Ethanol, the active ingredient in alcoholic beverages, acts as a competitive inhibitor by more effectively binding and saturating the alcohol dehydrogenase enzyme in the liver, thus blocking the binding of methanol. Methanol is excreted by the kidneys without being converted into the very toxic metabolites formaldehyde and formic acid. Alcohol dehydrogenase instead enzymatically converts ethanol to acetaldehyde, a much less toxic organic molecule. Additional treatment may include sodium bicarbonate for metabolic acidosis, and hemodialysis or hemodiafiltration to remove methanol and formate from the blood. Folinic acid or folic acid is also administered to enhance the metabolism of formate.

## 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 Fire-fighting 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.

**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 |
|-----------------------------|------------------------------------------------------------------------------------------------------------------------------------------|

**Special protective equipment and precautions for fire-fighters**

|                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Fire Fighting</b>         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
| <b>Fire/Explosion Hazard</b> | <ul style="list-style-type: none"> <li>▶ Liquid and vapour are highly flammable.</li> <li>▶ Severe fire hazard when exposed to heat, flame and/or oxidisers.</li> <li>▶ Vapour may travel a considerable distance to source of ignition.</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:<br/>carbon monoxide (CO)<br/>carbon dioxide (CO<sub>2</sub>)<br/>formaldehyde<br/>other pyrolysis products typical of burning organic material.</p> |

**SECTION 6 Accidental release measures**

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**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> <li>Contain and absorb small quantities with vermiculite or other absorbent material.</li> <li>Wipe up.</li> <li>Collect residues in a flammable waste container.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
| <b>Major Spills</b> | <ul style="list-style-type: none"> <li>Clear area of personnel and move upwind.</li> <li>Alert Fire Brigade and tell them location and nature of hazard.</li> <li>May be violently or explosively reactive.</li> <li>Wear breathing apparatus plus protective gloves.</li> <li>Prevent, by any means available, spillage from entering drains or water course.</li> <li>No smoking, naked lights or ignition sources.</li> <li>Increase ventilation.</li> <li>Stop leak if safe to do so.</li> <li>Water spray or fog may be used to disperse / absorb vapour.</li> <li>Contain spill with sand, earth or vermiculite.</li> <li>Use only spark-free shovels and explosion proof equipment.</li> <li>Collect recoverable product into labelled containers for recycling.</li> <li>Absorb remaining product with sand, earth or vermiculite.</li> <li>Collect solid residues and seal in labelled drums for disposal.</li> <li>Wash area and prevent runoff into drains.</li> <li>If contamination of drains or waterways occurs, advise emergency services.</li> </ul> |

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>Containers, even those that have been emptied, may contain explosive vapours.</li> <li>Do NOT cut, drill, grind, weld or perform similar operations on or near containers.</li> <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 enter confined spaces until atmosphere has been checked.</b></li> <li>Avoid smoking, naked lights, heat or ignition sources.</li> <li>When handling, <b>DO NOT eat, drink or smoke.</b></li> <li>Vapour may ignite on pumping or pouring due to static electricity.</li> <li><b>DO NOT use plastic buckets.</b></li> <li>Earth and secure metal containers when dispensing or pouring product.</li> <li>Use spark-free tools when handling.</li> <li>Avoid contact with incompatible materials.</li> <li>Keep containers securely sealed.</li> <li>Avoid physical damage to containers.</li> <li>Always wash hands with soap and water after handling.</li> <li>Work clothes should be laundered separately.</li> <li>Use good occupational work practice.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> <li>Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.</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>Store in original containers in approved flame-proof area.</li> <li>No smoking, naked lights, heat or ignition sources.</li> <li><b>DO NOT store in pits, depressions, basements or areas where vapours may be trapped.</b></li> <li>Keep containers securely sealed.</li> <li>Store away from incompatible materials in a cool, dry well ventilated area.</li> <li>Protect containers against physical damage and check regularly for leaks.</li> <li>Observe manufacturer's storage and handling recommendations contained within this SDS.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |

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

|                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |
|---------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suitable container</b> | <ul style="list-style-type: none"> <li>Packing as supplied by manufacturer.</li> <li>Plastic containers may only be used if approved for flammable liquid.</li> <li>Check that containers are clearly labelled and free from leaks.</li> <li>For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.</li> <li>For materials with a viscosity of at least 2680 cSt. (23 deg. C)</li> <li>For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)</li> <li>Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C): (i) Removable head packaging; (ii) Cans with friction closures and (iii) low pressure tubes and cartridges may be used.</li> <li>Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages</li> </ul> |
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## RainX Xtreme -50 °C

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|--------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                | <ul style="list-style-type: none"> <li>In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.</li> </ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <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-methoxycyclopropane, 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-methoxycyclopropane</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> <p>Alcohols</p> <ul style="list-style-type: none"> <li>are incompatible with strong acids, acid chlorides, acid anhydrides, oxidising and reducing agents.</li> <li>reacts, possibly violently, with alkaline metals and alkaline earth metals to produce hydrogen</li> <li>react with strong acids, strong caustics, aliphatic amines, isocyanates, acetaldehyde, benzoyl peroxide, chromic acid, chromium oxide, dialkylzinc, dichlorine oxide, ethylene oxide, hypochlorous acid, isopropyl chlorocarbonate, lithium tetrahydroaluminate, nitrogen dioxide, pentafluoroguanidine, phosphorus halides, phosphorus pentasulfide, tangerine oil, triethylaluminium, triisobutylaluminium</li> <li>should not be heated above 49 deg. C. when in contact with aluminium equipment</li> <li>Avoid storage with reducing agents.</li> </ul> |

## SECTION 8 Exposure controls / personal protection

## Control parameters

## Occupational Exposure Limits (OEL)

## INGREDIENT DATA

| Source                                                                                  | Ingredient | Material name                    | TWA                 | STEL                | Peak          | Notes                                                 |
|-----------------------------------------------------------------------------------------|------------|----------------------------------|---------------------|---------------------|---------------|-------------------------------------------------------|
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances           | methanol   | Methyl alcohol (methanol) - Skin | 200 ppm / 260 mg/m3 | 310 mg/m3 / 250 ppm | Not Available | Not Available                                         |
| Canada - Nova Scotia Occupational Exposure Limits                                       | methanol   | Methanol                         | 200 ppm             | 250 ppm             | Not Available | TLV Basis: headache; eye damage. BEI                  |
| Canada - Alberta Occupational Exposure Limits                                           | methanol   | Methanol (Methyl alcohol)        | 200 ppm / 262 mg/m3 | 328 mg/m3 / 250 ppm | Not Available | Not Available                                         |
| Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits | methanol   | Methyl alcohol (methanol)        | 200 ppm             | 250 ppm             | Not Available | Skin                                                  |
| Canada - Manitoba Occupational Exposure Limits                                          | methanol   | Not Available                    | 200 ppm             | 250 ppm             | Not Available | TLV® Basis: Headache; eye dam; dizziness; nausea; BEI |
| Canada - British Columbia Occupational Exposure Limits                                  | methanol   | Methanol                         | 200 ppm             | 250 ppm             | Not Available | Not Available                                         |
| Canada - Prince Edward Island Occupational Exposure Limits                              | methanol   | Methanol                         | 200 ppm             | 250 ppm             | Not Available | TLV® Basis: Headache; eye dam; dizziness; nausea; BEI |
| Canada - Northwest Territories Occupational Exposure Limits                             | methanol   | Methyl alcohol (methanol)        | 200 ppm             | 250 ppm             | Not Available | Skin                                                  |
| Canada - Quebec Permissible Exposure Values for Airborne Contaminants                   | methanol   | Methyl alcohol                   | 200 ppm / 262 mg/m3 | 328 mg/m3 / 250 ppm | Not Available | Not Available                                         |

## Emergency Limits

| Ingredient | TEEL-1        | TEEL-2        | TEEL-3        |
|------------|---------------|---------------|---------------|
| methanol   | Not Available | Not Available | Not Available |

  

| Ingredient                                    | Original IDLH | Revised IDLH  |
|-----------------------------------------------|---------------|---------------|
| methanol                                      | 6,000 ppm     | Not Available |
| alcohols C11 ethoxylated, branched and linear | Not Available | Not Available |

## Occupational Exposure Banding

| Ingredient                                    | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|-----------------------------------------------|-----------------------------------|----------------------------------|
| alcohols C11 ethoxylated, branched and linear | 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</b> | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can |
|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|

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| controls                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.<br>The basic types of engineering controls are:<br>Process controls which involve changing the way a job activity or process is done to reduce the risk.<br>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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.<br>Employers may need to use multiple types of controls to prevent employee overexposure.<br>For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant.<br>Air contaminants generated in the workplace possess varying 'escape' velocities which, in turn, determine the 'capture velocities' of fresh circulating air required to effectively remove the contaminant.                                                                                                                                                                                                                                                                                                                                                                                 |                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Type of Contaminant:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | Air Speed:                       |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | solvent, vapours, degreasing etc., evaporating from tank (in still air).                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.25-0.5 m/s<br>(50-100 f/min.)  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 0.5-1 m/s<br>(100-200 f/min.)    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 1-2.5 m/s<br>(200-500 f/min.)    |
| Within each range the appropriate value depends on:                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | Lower end of the range                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | Upper end of the range           |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1: Room air currents minimal or favourable to capture                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 1: Disturbing room air currents  |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 2: Contaminants of low toxicity or of nuisance value only.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 2: Contaminants of high toxicity |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 3: Intermittent, low production.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 3: High production, heavy use    |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 4: Large hood or large air mass in motion                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | 4: Small hood-local control only |
| <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p> <ul style="list-style-type: none"><li>· Adequate ventilation is typically taken to be that which limits the average concentration to no more than 25% of the LEL within the building, room or enclosure containing the dangerous substance.</li><li>· Ventilation for plant and machinery is normally considered adequate if it limits the average concentration of any dangerous substance that might potentially be present to no more than 25% of the LEL. However, an increase up to a maximum 50% LEL can be acceptable where additional safeguards are provided to prevent the formation of a hazardous explosive atmosphere. For example, gas detectors linked to emergency shutdown of the process might be used together with maintaining or increasing the exhaust ventilation on solvent evaporating ovens and gas turbine enclosures.</li><li>· Temporary exhaust ventilation systems may be provided for non-routine higher-risk activities, such as cleaning, repair or maintenance in tanks or other confined spaces or in an emergency after a release. The work procedures for such activities should be carefully considered.. The atmosphere should be continuously monitored to ensure that ventilation is adequate and the area remains safe. Where workers will enter the space, the ventilation should ensure that the concentration of the dangerous substance does not exceed 10% of the LEL (irrespective of the provision of suitable breathing apparatus)</li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                  |
| Personal protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                  |
| Eye and face protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | <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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                  |
| Skin protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | See Hand protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                  |
| Hands/feet protection                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | <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. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"><li>· frequency and duration of contact,</li><li>· chemical resistance of glove material,</li><li>· glove thickness and</li><li>· dexterity</li></ul> <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"><li>· When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240</li></ul> |                                  |

## RainX Xtreme -50 °C

|                         |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|-------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                         | <p>minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</p> <ul style="list-style-type: none"> <li>When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.</li> <li>Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.</li> <li>Contaminated gloves should be replaced.</li> </ul> <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> <li>Excellent when breakthrough time &gt; 480 min</li> <li>Good when breakthrough time &gt; 20 min</li> <li>Fair when breakthrough time &lt; 20 min</li> <li>Poor when glove material degrades</li> </ul> <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> <li>Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of.</li> <li>Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential</li> </ul> <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> |
| <b>Body protection</b>  | See Other protection below                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <b>Other protection</b> | <ul style="list-style-type: none"> <li>Overalls.</li> <li>PVC Apron.</li> <li>PVC protective suit may be required if exposure severe.</li> <li>Eyewash unit.</li> <li>Ensure there is ready access to a safety shower.</li> <li>Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity.</li> <li>For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets).</li> <li>Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds. Electrical resistance must range between 0 to 500,000 ohms. Conductive shoes should be stored in lockers close to the room in which they are worn. Personnel who have been issued conductive footwear should not wear them from their place of work to their homes and return.</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:

RainX Xtreme -50 °C

| Material          | CPI |
|-------------------|-----|
| BUTYL             | A   |
| BUTYL/NEOPRENE    | A   |
| PE/EVAL/PE        | A   |
| PVDC/PE/PVDC      | A   |
| SARANEX-23        | A   |
| SARANEX-23 2-PLY  | A   |
| TEFLON            | A   |
| VITON/NEOPRENE    | A   |
| NEOPRENE          | B   |
| NAT+NEOPR+NITRILE | C   |
| NATURAL RUBBER    | C   |
| NATURAL+NEOPRENE  | C   |
| NEOPRENE/NATURAL  | C   |
| NITRILE           | C   |
| PVA               | C   |
| PVC               | 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.

## Respiratory protection

Type AX-P 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 5 x ES                       | AX-AUS / Class 1 P2  | -                    | AX-PAPR-AUS / Class 1 P2 |
| up to 25 x ES                      | Air-line*            | AX-2 P2              | AX-PAPR-2 P2             |
| up to 50 x ES                      | -                    | AX-3 P2              | -                        |
| 50+ x ES                           | -                    | Air-line**           | -                        |

\* - Continuous-flow; \*\* - Continuous-flow or positive pressure demand

^ - 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(SO2), G = Agricultural chemicals, K = Ammonia(NH3), 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 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

## RainX Xtreme -50 °C

## Information on basic physical and chemical properties

|                                              |               |                                         |               |
|----------------------------------------------|---------------|-----------------------------------------|---------------|
| Appearance                                   | Blue          |                                         |               |
| Physical state                               | Liquid        | Relative density (Water = 1)            | 0.93          |
| Odour                                        | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold                              | Not Available | Auto-ignition temperature (°C)          | Not Available |
| pH (as supplied)                             | 8.5-8.9       | Decomposition temperature (°C)          | Not Available |
| Melting point / freezing point (°C)          | Not Available | Viscosity (cSt)                         | Not Available |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol)                | Not Available |
| Flash point (°C)                             | 27.7          | Taste                                   | Not Available |
| Evaporation rate                             | Not Available | Explosive properties                    | Not Available |
| Flammability                                 | Flammable.    | Oxidising properties                    | Not Available |
| Upper Explosive Limit (%)                    | Not Available | Surface Tension (dyn/cm or mN/m)        | Not Available |
| Lower Explosive Limit (%)                    | Not Available | Volatile Component (%vol)               | Not Available |
| Vapour pressure (kPa)                        | Not Available | Gas group                               | Not Available |
| Solubility in water                          | Miscible      | pH as a solution (Not Available%)       | Not Available |
| Vapour density (Air = 1)                     | Not Available | VOC g/L                                 | 410.13        |

## SECTION 10 Stability and reactivity

|                                    |                                                                                                                                                                                                                                                                                                                                                               |
|------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Reactivity                         | See section 7                                                                                                                                                                                                                                                                                                                                                 |
| Chemical stability                 | <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> |
| Possibility of hazardous reactions | See section 7                                                                                                                                                                                                                                                                                                                                                 |
| Conditions to avoid                | See section 7                                                                                                                                                                                                                                                                                                                                                 |
| Incompatible materials             | See section 7                                                                                                                                                                                                                                                                                                                                                 |
| Hazardous decomposition products   | See section 5                                                                                                                                                                                                                                                                                                                                                 |

## SECTION 11 Toxicological information

## Information on toxicological effects

|              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
|--------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Inhaled      | <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. The material is not thought to produce respiratory irritation (as classified by EC Directives using animal models). Nevertheless inhalation of vapours, fumes or aerosols, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</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> |
| Ingestion    | <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>Methanol may produce a burning or painful sensation in the mouth, throat, chest, and stomach. This may be accompanied by nausea, vomiting, headache, dizziness, shortness of breath, weakness, fatigue, leg cramps, restlessness, confusion, drunken behaviour, visual disturbance, drowsiness, coma and death.</p> <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p>                                                                                                                                                                                                                                                                                                                                                                                                                         |
| Skin Contact | <p>Skin contact with the material may produce toxic effects; systemic effects may result following absorption.</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>There is strong evidence to suggest that this material, on a single contact with skin, can cause serious, irreversible damage of organs.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |

Continued...

## RainX Xtreme -50 °C

|                                                  | There is some evidence to suggest that the material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
|--------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------|------------|--------------------------------------------------|-----------------------------------|--------------------------------------------------|---------------------------------|--------------------------------------------|-----------------------------------------------------------------|--|------------------------------------|--|------------------------------------------------------------------|
| Eye                                              | Methanol is a mild to moderate eye irritant. High vapor concentration or liquid contact with eyes causes irritation, tearing, and burning. Direct contact of the eye with ethanol may cause immediate stinging and burning with reflex closure of the lid and tearing, transient injury of the corneal epithelium and hyperaemia of the conjunctiva. There is some evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Moderate inflammation may be expected with redness; conjunctivitis may occur with prolonged exposure.                                                                                                                                                                                       |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| Chronic                                          | Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists, from results in experimentation, that developmental disorders are directly caused by human exposure to the material. 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. |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| RainX Xtreme -50 °C                              | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Not Available</td><td>Not Available</td></tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | TOXICITY | IRRITATION | Not Available                                    | Not Available                     |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| TOXICITY                                         | IRRITATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| Not Available                                    | Not Available                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| methanol                                         | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>Dermal (rabbit) LD50: 15800 mg/kg<sup>[2]</sup></td><td>Eye (rabbit): 100 mg/24h-moderate</td></tr> <tr> <td>Inhalation(Rat) LC50: 64000 ppm4h<sup>[2]</sup></td><td>Eye (rabbit): 40 mg-moderate</td></tr> <tr> <td>Oral (Rat) LD50: 5628 mg/kg<sup>[2]</sup></td><td>Eye: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> <tr> <td></td><td>Skin (rabbit): 20 mg/24 h-moderate</td></tr> <tr> <td></td><td>Skin: no adverse effect observed (not irritating)<sup>[1]</sup></td></tr> </table>                                                                                                                                                                                                          | TOXICITY | IRRITATION | Dermal (rabbit) LD50: 15800 mg/kg <sup>[2]</sup> | Eye (rabbit): 100 mg/24h-moderate | Inhalation(Rat) LC50: 64000 ppm4h <sup>[2]</sup> | Eye (rabbit): 40 mg-moderate    | Oral (Rat) LD50: 5628 mg/kg <sup>[2]</sup> | Eye: no adverse effect observed (not irritating) <sup>[1]</sup> |  | Skin (rabbit): 20 mg/24 h-moderate |  | Skin: no adverse effect observed (not irritating) <sup>[1]</sup> |
| TOXICITY                                         | IRRITATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| Dermal (rabbit) LD50: 15800 mg/kg <sup>[2]</sup> | Eye (rabbit): 100 mg/24h-moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| Inhalation(Rat) LC50: 64000 ppm4h <sup>[2]</sup> | Eye (rabbit): 40 mg-moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| Oral (Rat) LD50: 5628 mg/kg <sup>[2]</sup>       | Eye: no adverse effect observed (not irritating) <sup>[1]</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
|                                                  | Skin (rabbit): 20 mg/24 h-moderate                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
|                                                  | Skin: no adverse effect observed (not irritating) <sup>[1]</sup>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| alcohols C11 ethoxylated, branched and linear    | <table> <tr> <th>TOXICITY</th><th>IRRITATION</th></tr> <tr> <td>dermal (rat) LD50: 3300 mg/kg<sup>[2]</sup></td><td>Eye (rabbit): 32/110 moderate *</td></tr> <tr> <td>Inhalation(Rat) LC50: &gt;1.6 mg/l4h<sup>[2]</sup></td><td>Skin (rabbit): 1.5/8.0 slight *</td></tr> <tr> <td>Oral (Rat) LD50: 7600 mg/kg<sup>[2]</sup></td><td>Skin : Mild</td></tr> </table>                                                                                                                                                                                                                                                                                                                                                                                                                        | TOXICITY | IRRITATION | dermal (rat) LD50: 3300 mg/kg <sup>[2]</sup>     | Eye (rabbit): 32/110 moderate *   | Inhalation(Rat) LC50: >1.6 mg/l4h <sup>[2]</sup> | Skin (rabbit): 1.5/8.0 slight * | Oral (Rat) LD50: 7600 mg/kg <sup>[2]</sup> | Skin : Mild                                                     |  |                                    |  |                                                                  |
| TOXICITY                                         | IRRITATION                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| dermal (rat) LD50: 3300 mg/kg <sup>[2]</sup>     | Eye (rabbit): 32/110 moderate *                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| Inhalation(Rat) LC50: >1.6 mg/l4h <sup>[2]</sup> | Skin (rabbit): 1.5/8.0 slight *                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| Oral (Rat) LD50: 7600 mg/kg <sup>[2]</sup>       | Skin : Mild                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |
| <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                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |          |            |                                                  |                                   |                                                  |                                 |                                            |                                                                 |  |                                    |  |                                                                  |

|                                                          |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |
|----------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ALCOHOLS C11 ETHOXYLATED, BRANCHED AND LINEAR            | <p>Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.</p> <p>Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitizers. The oxidation products also cause irritation.</p> <p>Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylates has ever been reported. Studies show that alcohol ethoxylates have low toxicity through swallowing and skin contact.</p> <p>Animal studies show these chemicals may produce gastrointestinal irritation, stomach ulcers, hair standing up, diarrhea and lethargy. Slight to severe irritation occurred when undiluted alcohol ethoxylates were applied to the skin and eyes of animals. These chemicals show no indication of genetic toxicity or potential to cause mutations and cancers. Toxicity is thought to be substantially lower than that of nonylphenol ethoxylates. Some of the oxidation products of this group of substances may have sensitizing properties.</p> <p>As they cause less irritation, nonionic surfactants are often preferred to ionic surfactants in topical products. However, their tendency to auto-oxidise also increases their irritation. Due to their irritating effect it is difficult to diagnose allergic contact dermatitis (ACD) by patch testing. Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed.</p> <p>Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal. However, repeated exposure may cause dose dependent damage to the kidneys as well as reproductive and developmental defects.</p> |
| METHANOL & ALCOHOLS C11 ETHOXYLATED, BRANCHED AND LINEAR | 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.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |

|                                   |   |                          |   |
|-----------------------------------|---|--------------------------|---|
| 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

Continued...

## RainX Xtreme -50 °C

| RainX Xtreme -50 °C                                                                                                                                                                                                                                                                                                                     | Endpoint      | Test Duration (hr) | Species                       | Value            | Source        |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------|--------------------|-------------------------------|------------------|---------------|
|                                                                                                                                                                                                                                                                                                                                         | Not Available | Not Available      | Not Available                 | Not Available    | Not Available |
| methanol                                                                                                                                                                                                                                                                                                                                | Endpoint      | Test Duration (hr) | Species                       | Value            | Source        |
|                                                                                                                                                                                                                                                                                                                                         | NOEC(ECx)     | 720h               | Fish                          | 0.007mg/L        | 4             |
|                                                                                                                                                                                                                                                                                                                                         | EC50          | 48h                | Crustacea                     | >10000mg/l       | 2             |
|                                                                                                                                                                                                                                                                                                                                         | LC50          | 96h                | Fish                          | 290mg/l          | 2             |
|                                                                                                                                                                                                                                                                                                                                         | EC50          | 96h                | Algae or other aquatic plants | 14.11-20.623mg/l | 4             |
| alcohols C11 ethoxylated, branched and linear                                                                                                                                                                                                                                                                                           | Endpoint      | Test Duration (hr) | Species                       | Value            | Source        |
|                                                                                                                                                                                                                                                                                                                                         | EC50          | 48h                | Crustacea                     | 2.1mg/L          | 5             |
|                                                                                                                                                                                                                                                                                                                                         | EC50(ECx)     | 48h                | Crustacea                     | 2.1mg/L          | 5             |
| <b>Legend:</b> Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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 |               |                    |                               |                  |               |

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. Evaporation of methanol from moist/dry soil surfaces is expected to be an important fate process. Biological breakdown in soil is expected to be an important fate process for methanol based on half-lives of 1 day, in sandy silt loam, and 3.2 days in sandy loam.

Aquatic Fate: Methanol is not expected to adsorb to suspended solids and sediment and the substance mixes in water. The substance is expected to evaporate from water surfaces with half-lives, for a model river, of 3 days, and 35 days, for a model lake. Concentration of the substance in aquatic organisms is expected to be low. Breakdown by water and sunlight are not expected to be an important environmental fate processes. The substance is expected to be broken down by microorganisms in water.

Ecotoxicity: Methanol is non-toxic to fish, including fathead minnow, rainbow trout, bluegill sunfish, and guppy. The substance is also non-toxic to aquatic invertebrates, including Daphnia pulex water fleas, brine and brown shrimp. The substances are non-toxic to shellfish, including mussels, marine bacterium, including Photobacterium phosphoreum, and the protozoan Tetrahymena pyriformis.

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

## Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------|-------------------------|------------------|
| methanol   | LOW                     | LOW              |

## Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------|-----------------|
| methanol   | LOW (BCF = 10)  |

## Mobility in soil

| Ingredient | Mobility       |
|------------|----------------|
| 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. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"> <li><b>DO NOT</b> allow wash water from cleaning or process equipment to enter drains.</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> <li>Recycle wherever possible.</li> <li>Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.</li> <li>Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).</li> </ul> |

Continued...

RainX Xtreme -50 °C

► Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 Transport information

Labels Required

|                  |                                                                                                                                                                     |
|------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------|
|                  |   |
| Marine Pollutant | NO                                                                                                                                                                  |

Land transport (TDG)

|                              |                                            |                |  |
|------------------------------|--------------------------------------------|----------------|--|
| UN number                    | 1230                                       |                |  |
| UN proper shipping name      | METHANOL                                   |                |  |
| Transport hazard class(es)   | Class                                      | 3              |  |
|                              | Subrisk                                    | 6.1            |  |
| Packing group                | II                                         |                |  |
| Environmental hazard         | Not Applicable                             |                |  |
| Special precautions for user | Special provisions                         | 43             |  |
|                              | Explosive Limit and Limited Quantity Index | 1 L            |  |
|                              | ERAP Index                                 | Not Applicable |  |

Air transport (ICAO-IATA / DGR)

|                              |                                                           |      |  |
|------------------------------|-----------------------------------------------------------|------|--|
| UN number                    | 1230                                                      |      |  |
| UN proper shipping name      | Methanol                                                  |      |  |
| Transport hazard class(es)   | ICAO/IATA Class                                           | 3    |  |
|                              | ICAO / IATA Subrisk                                       | 6.1  |  |
|                              | 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       | 6.1      |  |
| 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

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

|                                               |               |
|-----------------------------------------------|---------------|
| Product name                                  | Group         |
| methanol                                      | Not Available |
| alcohols C11 ethoxylated, branched and linear | Not Available |

## RainX Xtreme -50 °C

## Transport in bulk in accordance with the ICG Code

| Product name                                  | Ship Type     |
|-----------------------------------------------|---------------|
| methanol                                      | Not Available |
| alcohols C11 ethoxylated, branched and linear | Not Available |

## SECTION 15 Regulatory information

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

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations and the SDS contains all the information required by the Hazardous Products Regulations.

## methanol is found on the following regulatory lists

Canada Categorization decisions for all DSL substances  
Canada Domestic Substances List (DSL)

Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS  
Chemical Footprint Project - Chemicals of High Concern List

## alcohols C11 ethoxylated, branched and linear is found on the following regulatory lists

Canada Domestic Substances List (DSL)

## National Inventory Status

| National Inventory                             | Status                                                                                                                                                                                                    |
|------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Australia - AIC / Australia Non-Industrial Use | Yes                                                                                                                                                                                                       |
| Canada - DSL                                   | Yes                                                                                                                                                                                                       |
| Canada - NDSL                                  | No                                                                                                                                                                                                        |
| China - IECSC                                  | Yes                                                                                                                                                                                                       |
| Europe - EINEC / ELINCS / NLP                  | No                                                                                                                                                                                                        |
| Japan - ENCS                                   | Yes                                                                                                                                                                                                       |
| Korea - KECI                                   | Yes                                                                                                                                                                                                       |
| New Zealand - NZIoC                            | Yes                                                                                                                                                                                                       |
| Philippines - PICCS                            | Yes                                                                                                                                                                                                       |
| USA - TSCA                                     | Yes                                                                                                                                                                                                       |
| Taiwan - TCSI                                  | Yes                                                                                                                                                                                                       |
| Mexico - INSQ                                  | No                                                                                                                                                                                                        |
| Vietnam - NCI                                  | Yes                                                                                                                                                                                                       |
| Russia - FBEPH                                 | No                                                                                                                                                                                                        |
| <b>Legend:</b>                                 | <i>Yes = All CAS declared ingredients are on the inventory<br/>No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.</i> |

## SECTION 16 Other information

|               |            |
|---------------|------------|
| Revision Date | 08/04/2022 |
| Initial Date  | 05/30/2022 |

## CONTACT POINT

IMMEDIATELY contact the local POISON CONTROL center for your area (24 hours): Alberta 1-800-332-1414 British Columbia 1-800-567-8911 Manitoba 1-855-776-4766 New Brunswick 911 Newfoundland and Labrador 1-866-727-1110 Northwest Territories 1-800-332-1414 Nova Scotia and Prince Edward Island 1-800-565-8161, 1-800-332-1414 or 911 Nunavut 1-800-268-9017 Ontario 1-800-268-9017 Quebec 1-800-463-5060 Saskatchewan 1-866-454-1212 Yukon Territory 867-393-8700 United States 1-800-222-1222 Contactez IMMÉDIATEMENT le centre ANTIPOISON de votre région (24 heures): Alberta 1-800-332-1414 Colombie-Britannique 1-800-567-8911 Manitoba 1-855-776-4766 Nouveau-Brunswick 911 Terre-Neuve-et-Labrador 1-866-727-1110 Territoires du Nord-Ouest 1-800-332-1414 Nouvelle-Écosse et Île-du-Prince-Édouard 1-800-565-8161, 1-800-332-1414 ou 911 Nunavut 1-800-268-9017 Ontario 1-800-268-9017 Québec 1-800-463-5060 Saskatchewan 1-866-454-1212 Territoire du Yukon 867-393-8700 États-Unis: 1-800-222-1222

## 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  
ES: Exposure Standard  
OSF: Odour Safety Factor  
NOAEL :No Observed Adverse Effect Level  
LOAEL: Lowest Observed Adverse Effect Level  
TLV: Threshold Limit Value

## RainX Xtreme -50 °C

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

AIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List

NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory

NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act

TCSI: Taiwan Chemical Substance Inventory

INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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