

## Section 1. Product and Company Identification

|                      |  |
|----------------------|--|
| Product Name         | SafeCoat Clear II Part A   |
| Manufacturer         | Quantum Technical Services Ltd. (Dba Quantum Chemical)<br>15 Riel Drive<br>St. Albert, AB, Canada T8N 3Z2<br>Tel: (780) 458-3355 (non-emergency phone number)<br>Fax: (780) 458-2852<br><a href="http://www.quantumchemical.com">www.quantumchemical.com</a> |
| Chemical Emergencies | For 24-Hour Emergency call Canutec at 613.996.6666   |

## Section 2. Hazards Identification

### 2.1 Classification

#### GHS Classification

|  |             |
|--|-------------|
| Flammable Liquids                                  | Category 2  |
| Acute Toxicity:Inhalation                          | Category 4  |
| Acute Toxicity:Dermal                              | Category 4  |
| Skin corrosion/irritation                          | Category 2  |
| Serious eye damage/Eye irritation                  | Category 2A |
| Skin Sensitization                                 | Category 1  |
| Specific Target Organ Toxicity (single exposure)   |             |
| Central Nervous System                             | Category 1  |
| Respiratory Tract                                  | Category 3  |
| Specific Target Organ Toxicity (repeated exposure) |             |
| Skin   | Category 1  |

### 2.2 Label Elements

#### Pictogram



Signal Word

Danger

|                                 |   |
|---------------------------------|---|
| <b>Hazard Statements</b>        | <p><b>H225</b> Highly Flammable liquid and vapour.<br/> <b>H315</b> Causes skin irritation.<br/> <b>H317</b> May cause allergic skin reaction.<br/> <b>H319</b> Causes serious eye irritation.<br/> <b>H332</b> Harmful if Inhaled.<br/> <b>H335</b> May cause respiratory irritation.<br/> <b>H336</b> May cause drowsiness or dizziness.<br/> <b>H370</b> Causes damage to organs (central nervous system).<br/> <b>H372</b> Causes damage to organs through prolonged or repeated exposure: skin.</p>  |
| <b>Precautionary Statements</b> | <p><b>P280</b> Wear protective gloves/protective clothing/eye protection/face protection.<br/> <b>P210</b> Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.<br/> <b>P233</b> Keep container tightly closed.<br/> <b>P261</b> Avoid breathing dust/fume/gas/mist/vapours/spray.<br/> <b>P271</b> Use only outdoors or in a well ventilated area.<br/> <b>P264</b> Wash face, hands and any exposed skin thoroughly after handling.<br/> <b>P272</b> Contaminated work clothing should not be allowed out of the workplace.</p>   |
| <b>Response</b>                 | <p><b>P370 + P378</b> In case of fire: Use water spray, carbon dioxide, dry chemical, or foam to extinguish.<br/> <b>P303 + P361 + P353</b> IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].<br/> <b>P304 + P340 + P312</b> IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.<br/> <b>P305 + P351 + P338</b> IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists get medical attention.<br/> <b>P332 + P313</b> If skin irritation occurs: Get medical advice/attention.<br/> <b>P362 + P364</b> Take off contaminated clothing and wash before reuse.</p> |
| <b>Storage</b>                  | <b>P405</b> Store locked up.  |
| <b>Disposal</b>                 | <b>P501</b> Dispose of contents/containers in accordance with local/regional/national/international regulations.  |

### Section 3. Composition and Ingredient Information

| Hazardous Ingredients                                | %     | C.A.S. #      | LD <sub>50</sub>        | LC <sub>50</sub>         |
|--|-------|---------------|-------------------------|--------------------------|
| Ammonium Polyphosphate                               | 30-60 | 68333-79-9    | Oral (Rat) >2,000 mg/kg |                          |
| Epoxy Resin Adduct**                                 | 10-30 | Proprietary** | Oral (Rat) 1,163 mg/kg  | Inhal (Rat) > 11.3 mg/l  |
| Tert-butyl acetate                                   | 1-5   | 540-88-5      |                         | Inhal (estimate) 11 mg/l |
| 4-4'Isopropylidenediphenol-Epichlorohydrin Copolymer | 7-30  | 25068-38-6    | Oral (Rat) 11,400 mg/kg |                          |
| Trimethylolpropane Triacrylate                       | 7-13  | 15625-89-5    | Oral (Rat) 5,190 mg/kg  |                          |

\*\*HMIRA RN 03330779 Date Applied 2019-05-17

Note: Concentration ranges are given to protect intellectual property.

## Section 4. First Aid Measures

|              |   |
|--------------|---|
| Eye Contact  | Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. Check for and remove any contact lenses. If irritation persists, repeat flushing. Obtain medical attention. If necessary call a physician.  |
| Skin Contact | Remove contaminated clothing. Wash affected areas thoroughly with plenty of soap and water. If irritation, redness or a burning sensation develops and persists, obtain medical advice. Contaminated clothing should be thoroughly cleaned before reuse.  |
| Inhalation   | Remove patient from exposure, keep warm and at rest. If breathing is labored, oxygen should be administered by qualified personnel. Obtain medical attention if there are persistent symptoms.  |
| Ingestion    | Wash out mouth with water. If material has been swallowed and exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person. Get medical attention. If necessary call a poison center or Physician. |

## Section 5. Fire Fighting Measures

|  |   |
|--|---|
| Extinguishing Media  | Alcohol-resistant foam. Carbon dioxide, dry chemical.   |
| Unsuitable Extinguishing Media                                 | Full water jet.   |
| Hazardous Combustion Products                                  | Carbon Oxides   |
| Special Protective equipment and precautions for firefighters. | Fire fighters must wear full protective equipment including self-contained breathing apparatus with chemical protection clothing. |
| Special Hazards  | Keep containers cool by spraying with water if exposed to fire.   |

## Section 6. Accidental Release Measures

|                           |   |
|---------------------------|---|
| Personal Precautions      | Remove all sources of ignition. Ventilate area.<br>In addition to the protective clothing/equipment in Section 8, wear impermeable boots.   |
| Method for Cleaning Up    | Evacuate all non-essential personnel. Dike area to prevent spreading. Cover spills with some inert absorbent material, sweep up and place in a waste disposal container. Remove containers to a safe place and cover loosely. |
| Environmental Precautions | Avoid release to environment.   |

## Section 7. Handling and Storage

|               |   |
|---------------|---|
| Handling      | Put on appropriate personal protective equipment (see section 8).<br>Precautions: Avoid release to environment. Keep away from heat, sparks and open flame. No smoking. Wear protective gloves and eye/face protection. Wash hands thoroughly after handling.<br><br>Persons with a history of skin sensitization problems should not be employed in any process in which this product is used.<br><br>Special Handling Statements; Provide adequate ventilation of working area. |
| Storage Needs | Store in a cool dry, well ventilated space and keep container tightly closed. Keep away from source of ignition. Take precautionary measures against electrostatic loading – earthing necessary during loading operations. Observe the general rules of industrial fire protection.   |

## Section 8. Exposure Controls and Personal Protection

### Occupational Exposure Limits:

|  |   |
|--|---|
| Ammonium Polyphosphate                               | None  |
| Epoxy Resin Adduct                                   | None  |
| Tert-butyl acetate                                   | TWA 200 ppm, 950 mg/m <sup>3</sup> Basis; CA (AB, BC, QC) OEL |
| 4-4'Isopropylidenediphenol-Epichlorohydrin Copolymer | None  |
| Trimethylolpropane Triacrylate                       | AIHA WEEL (1999-01-01) TWA 1 mg/m <sup>3</sup>                |

### Protective Equipment:

|                          |   |
|--------------------------|---|
| Respiratory              | Use respiratory protection unless adequate local exhaust ventilation is provided.<br>Filter type: Organic Vapor Type.                                 |
| Eye Protection           | Safety Glasses, if possibility of splashing exists wear tightly fitting safety goggles.   |
| Gloves                   | Chemical-resistant, impervious gloves.  |
| Clothing                 | Protective clothing should be selected and used in accordance with "Guidelines for the Selection of Chemical Protective Clothing" published by ACGIH. |
| Other/Type               | Eyewash fountain. Emergency shower should be in close proximity.  |
| Ventilation Requirements | Where the material is not used in a closed system. Good enclosure and local exhaust ventilation should be provided to control exposure.               |

## Section 9. Physical and Chemical Properties

|  |                          |
|--|--------------------------|
| Physical State                           | Liquid.                  |
| Appearance                               | Clear                    |
| Odour                                    | Sweet Mild               |
| Odour Threshold                          | Not Available            |
| Specific Gravity (H <sub>2</sub> O=1)    | Approx 1.4 at 20°C       |
| Flash Point                              | 48.5 C                   |
| Vapor Pressure (mm Hg)                   | Not Available.           |
| Vapor Density (Air=1)                    | Not Available.           |
| Evaporation Rate                         | Not Available.           |
| Boiling Point                            | Not Available            |
| pH                                       | Not Available            |
| Solubility in Water                      | Insoluble                |
| Freezing Point                           | Not Available            |
| Melting Point                            | Not Available            |
| % Solids by weight                       | 96.9                     |
| % Volatile                               | 2.7                      |
| VOC                                      | 0                        |
| Viscosity                                | 2500 – 7500 cp (approx.) |
| Flammability                             | Flammable                |
| Upper/Lower explosion/flammability limit | Not Available            |
| Partition coefficient (n-Octanol/water)  | Not Available            |
| Auto-ignition Temperature                | Not Available            |
| Decomposition Temperature                | Not Available            |

## Section 10. Stability and Reactivity

|                                     |  |
|-------------------------------------|--|
| Stability                           | Stable under normal conditions.  |
| Conditions to Avoid                 | Keep away from heat, flame, sparks, and other ignition sources.                                      |
| Polymerization                      | Caustic Soda (sodium hydroxide) can induce vigorous polymerization at temperatures around 200°C.     |
| Incompatibility                     | Strong oxidizing agents, sodium hydroxide, acids, bases, nitrates, plastics, Amines and Lewis acids. |
| Hazardous products of Decomposition | Acetic Acid, Carbon Oxides.  |

## Section 11. Toxicological Information

No Data for Product Itself

### Acute Toxicity

Ammonium Polyphosphate

LD50

LC50

Ammonium Polyphosphate

Oral (Rat) >2000 mg/kg

Epoxy Resin Adduct

Oral (Rat) 1,163 mg/kg  
Dermal (Rabbit) 1,130 mg/kg

Inhalation (Rat) >11.3 mg/l

Tert-butyl acetate

(Estimate) Inhalation 11 mg/l

4-4'Isopropylidenediphenol-  
Epichlorohydrin Copolymer

Oral (Rat) 11,400 mg/kg  
Dermal (Rat) 2,000 mg/kg

Trimethylolpropane Triacrylate

Oral (Rat) 5,190 mg/kg  
Dermal (Rat) 5,170 mg/kg

### Irritant

Causes serious eye irritation.

### Carcinogenicity

Not Available

### Mutanogenicity

Not Available

### Specific Target Organ Toxicity

Epoxy Resin Adduct

Respiratory Tract (Irritation)  
Central Nervous System  
Skin  
Liver

Tert-butyl acetate

Respiratory Tract (Irritation)  
Central Nervous System

4-4'Isopropylidenediphenol-  
Epichlorohydrin Copolymer

Respiratory Tract (Irritation)

Trimethylolpropane Triacrylate

Respiratory Tract (Irritation): Single Exposure  
Skin: Repeated Exposure

### Potential Chronic Health Effects

Epoxy Resin Adduct, 4-4'Isopropylidenediphenol-Epichlorohydrin Copolymer, Trimethylolpropane Triacrylate:

Once sensitized a severe allergic reaction may occur when subsequently exposed to very low levels.

### Symptoms of Overexposure

Tert-butyl acetate : headache, dizziness, tiredness, nausea and vomiting, Concentrations well above the TLV may cause narcotic effects.

## Section 12. Ecological Information

### Toxicity

No Data for product itself

|                        |   |          |
|------------------------|---|----------|
| Ammonium polyphosphate | Acute (Fish (rainbow trout), 96 hr.) LC50 | 123 mg/l |
| Epoxy Resin Adduct     | Acute (Fish (Zebra danio), 96 hr) LC50    | 24 mg/l  |
|                        | Acute (Daphnia, 24 hr) EC50               | 76 mg/l  |
|                        | Acute (Algae, 72 hr) LC50                 | 110 mg/l |
| Tert-butyl acetate     | No data available                         |          |

### 4-4'Isopropylidenediphenol-Epichlorohydrin Copolymer/Trimethylolpropane Triacrylate (Reaction Product)

|                         |      |                                    |
|-------------------------|------|------------------------------------|
| Acute (Fish, 96 hr)     | LC50 | 1.3 mg/l                           |
| Acute (Daphnia, 24 hr)  | EC50 | 2.1 mg/l                           |
| Acute (Daphnia, 21 day) | NOEC | 0.3 mg/l (Magna Reproductive Test) |
| Acute (Algae, 72 hr)    | LC50 | 11 mg/l                            |

### Persistence/Degradability

Not Available

### Bioaccumulation Potential

|                    |           |               |
|--------------------|-----------|---------------|
| Epoxy Resin Adduct | LogPow    | -0.269 – 0.15 |
|                    | BCF       | -             |
|                    | Potential | Low           |

|  |           |             |
|--|-----------|-------------|
| 4-4'Isopropylidenediphenol-Epichlorohydrin Copolymer | LogPow    | 2.64 – 3.78 |
|  | BCF       | 3 – 31.00   |
|  | Potential | Low         |

## Section 13. Disposal Considerations

Waste Disposal The generation of waste should be avoided or minimized wherever possible. Disposal should be in accordance with federal, provincial and municipal regulations.

## Section 14. Transport Information

|        |   |
|--------|---|
| Canada | TDG<br>UN1263, PAINT, FLAMMABLE, CLASS 3 Packaging Group III  |
|        | IATA<br>UN1263, PAINT, FLAMMABLE, CLASS 3 Packaging Group III |

## Section 15. Regulatory Information

|        |                                       |
|--------|---------------------------------------|
| Canada | DSL, All components listed or exempt  |
| USA    | TSCA, All components listed or exempt |

## Section 16. Other Information

Revision Date                      NOV. 2, 2020

Note                                      This information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of Quantum Technical Services Limited. The data on this sheet relates only to the specific material designated herein. Quantum Technical Services Ltd. assumes no legal responsibility for use or reliance upon these data.

## Section 1. Product and Company Identification

|                      |  |
|----------------------|--|
| Product Name         | <b>SafeCoat Clear II Part B</b>  |
| Manufacturer         | Quantum Technical Services Ltd. (Dba Quantum Chemical)<br>15 Riel Drive<br>St. Albert, AB, Canada T8N 3Z2<br>Tel: (780) 458-3355 (non-emergency phone number)<br>Fax: (780) 458-2852<br><a href="http://www.quantumchemical.com">www.quantumchemical.com</a> |
| Chemical Emergencies | For 24-Hour Emergency call Canutec at 613.996.6666   |

## Section 2. Hazards Identification

### 2.1 Classification

#### GHS Classification

|  |             |
|--|-------------|
| Flammable Liquids                                  | Category 2  |
| Acute Toxicity:Oral                                | Category 4  |
| Acute Toxicity:Dermal                              | Category 4  |
| Acute Toxicity:Inhalation                          | Category 4  |
| Skin corrosion/irritation                          | Category 1C |
| Serious eye damage/Eye irritation                  | Category 1  |
| Respiratory Sensitization                          | Category 1  |
| Skin Sensitization                                 | Category 1  |
| Toxic to Reproduction                              | Category 2  |
| Specific Target Organ Toxicity (single exposure)   |             |
| Respiratory Tract Irritation/Narcotic Effects      | Category 3  |
| Lungs, Skin  | Category 1  |
| Specific Target Organ Toxicity (repeated exposure) |             |
| Skin, Blood System, Central Nervous System,        |             |
| Respiratory Tract, Lungs, liver.                   | Category 1  |

### 2.2 Label Elements

#### Pictogram



Signal Word

Danger



**Hazard Statements**

**H225** Highly Flammable liquid and vapour.  
**H332** Harmful if inhaled.  
**H302** Harmful if swallowed.  
**H312** Harmful in contact with skin.  
**H314** Causes severe skin burns and eye damage.  
**H315** Causes skin irritation.  
**H317** May cause allergic skin reaction.  
**H319** Causes serious eye irritation.  
**H334** May cause allergy or asthma symptoms or breathing difficulties if inhaled.  
**H361fd** Suspected of damaging fertility. Suspected of damaging unborn child.  
**H335** May cause respiratory irritation.  
**H336** May cause drowsiness or dizziness.  
**H370** Causes damage to organs (lungs, skin)  
**H372** Causes damage to organs through prolonged or repeated exposure: skin, blood system, central nervous system, respiratory tract, lungs, liver.

**Precautionary Statements**

**P201** Obtain special instructions before use.  
**P202** Do not handle until all safety instructions have been read and understood.  
**P210** Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.  
**P233** Keep container tightly closed.  
**P240** Ground and bond container and receiving equipment.  
**P241** Use explosion proof electrical/ventilating/lighting equipment.  
**P242** Use non sparking tools.  
**P243** Take action to avoid static discharge.  
**P280** Wear protective gloves/protective clothing/eye protection/face protection.  
**P284** [In case of inadequate ventilation] wear respiratory protection.  
**P261** Avoid breathing dust/fume/gas/mist/vapours/spray.  
**P270** Do not eat, drink or smoke when using this product.  
**P271** Use only outdoors or in a well ventilated area.  
**P264** Wash face, hands and any exposed skin thoroughly after handling.  
**P272** Contaminated work clothing should not be allowed out of the workplace.

**Response**

**P314** Get medical attention if you feel unwell.  
**P308 + P313** If exposed or concerned: Get medical attention.  
**P303 + P361 + P353** IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].  
**P333 + P313** If skin irritation or rash occurs: Get medical advice/attention.  
**P304 + P340** IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.  
**P310** Immediately call a POISON CENTER/doctor.  
**P342 + P311** If experiencing respiratory symptoms: call a POISON CENTER/doctor.  
**P301 + P310** IF SWALLOWED: Immediately call a Poison Center/doctor.  
**P330 + P331** Rinse mouth. Do NOT induce vomiting.  
**P305 + P351 + P338** IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
**P310** Immediately call a POISON CENTER/doctor.  
**P370 + P378** In case of fire: Use dry sand, dry chemical, or alcohol-resistant foam to extinguish.

**Storage**

**P405** Store locked up.  
**P403 + P233+ P235** Store in a well-ventilated space. Keep container cool. Keep container tightly closed.

**Disposal**

**P501** Dispose of contents/containers in accordance with local/regional/national/international regulations.

### Section 3. Composition and Ingredient Information

| Hazardous Ingredients                  | %       | C.A.S. #   | LD <sub>50</sub>        | LC <sub>50</sub>        |
|--|---------|------------|-------------------------|-------------------------|
| Benzyl Alcohol                         |         | 100-51-6   | Oral (rat) 1,230 mg/kg  | Inhal (rat) >4.178 mg/l |
| Isophorone Diamine                     |         | 2855-13-2  | Oral (rat) 1,030 mg/kg  |                         |
| Amine-Epoxy Resin Adduct (proprietary) |         |            |                         |                         |
| Phenol,4-Nonyl-, Branched              |         | 84852-15-3 | Oral (rat) 1,300 mg/kg  |                         |
| N-(aminoethyl)piperazine               |         | 140-31-8   | Oral (rat) >1,000 mg/kg |                         |
| Diethylenetriamine                     | 0.5-1.5 | 111-40-0   | Oral (rat) 1,080 mg/kg  |                         |
| Tertiary butyl acetate                 | 30-60   | 540-88-5   |                         | Inhal (estimate) 11mg/l |

Note Concentration ranges not given are withheld by raw material supplier as trade secret. Concentration ranges are given to protect intellectual property.

### Section 4. First Aid Measures

|              |   |
|--------------|---|
| Eye Contact  | Get medical attention immediately. Immediately flush eyes with running water for a minimum of 15 minutes. Hold eyelids open during flushing. Check for and remove any contact lenses. Chemical burns must be promptly treated by a Physician.   |
| Skin Contact | Get medical attention immediately. Remove contaminated clothing. Wash affected areas thoroughly with plenty of soap and water. Chemical burns must be promptly treated by a Physician. Contaminated clothing should be thoroughly cleaned before reuse.   |
| Inhalation   | Get medical attention immediately. Remove patient from exposure, keep warm and at rest. If breathing is labored, oxygen should be administered by qualified personnel. Obtain medical attention if there are persistent symptoms. The exposed person may need to be kept under medical surveillance for 48 hours.   |
| Ingestion    | Get medical attention immediately. Wash out mouth with water. If material has been swallowed and exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Only induce vomiting at the instruction of a physician. Chemical burns must be promptly treated by a Physician. Never give anything by mouth to an unconscious person. |

### Section 5. Fire Fighting Measures

|  |   |
|--|---|
| Extinguishing Media  | Use an extinguishing agent suitable for the surrounding fire.   |
| Unsuitable Extinguishing Media                                 | None known.   |
| Special Protective equipment and precautions for firefighters. | Fire fighters must wear full protective equipment including self-contained breathing apparatus with chemical protection clothing. |
| Special Hazards  | Keep containers cool by spraying with water if exposed to fire.   |

### Section 6. Accidental Release Measures

|                           |  |
|---------------------------|--|
| Personal Precautions      | Do not touch or walk through spilled material. Avoid breathing vapor or mist. Put on appropriate personal protective equipment (section 8).    |
| Method for Cleaning Up    | Cover spills with some inert absorbent material, sweep up and place in a waste disposal container.   |
| Environmental Precautions | Avoid release to environment. Inform relevant authorities if the product has caused environmental pollution (sewers, waterways, soil, or air). |

## Section 7. Handling and Storage

|               |   |
|---------------|---|
| Handling      | <p>Put on appropriate personal protective equipment (see section 8). Persons with a history of skin sensitization problems or asthma, allergies or chronic or recurrent respiratory disease should not be employed in any process in which this product is used. Avoid exposure – obtain special instructions before use. Avoid exposure during pregnancy. Do not get in eyes or on skin or clothing . Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate.</p> <p>Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See section 8 for additional information on hygiene measures.</p> |
| Storage Needs | <p>Store in a cool dry, well ventilated space, protected from direct sunlight, and away from incompatible materials (see section 10). Store locked up. Keep container tightly closed and sealed until ready for use. Do not store in unlabeled containers.</p>  |

## Section 8. Exposure Controls and Personal Protection

### Occupational Exposure Limits:

|                           |   |
|---------------------------|---|
| Benzyl Alcohol            | TWA 10 ppm  |
| Diethylenetriamine        | (ACGIH TLV) TWA 4.2 mg/m <sup>3</sup> , 1 ppm (skin)<br>(NIOSH REL) TWA 4 mg/m <sup>3</sup> , 1 ppm<br>(OSHA PEL) TWA 4 mg/m <sup>3</sup> , 1 ppm |
| Tert-butyl acetate        | TWA 200 ppm, 950 mg/m <sup>3</sup>  |
| Hydrous Aluminum Silicate | (ACGIH TLV) TWA 2.0 mg/m <sup>3</sup> (respirable dust)<br>(OSHA PEL) TWA 5.0 mg/m <sup>3</sup> (respirable dust)                                 |

### Protective Equipment:

|                                   |  |
|-----------------------------------|--|
| Appropriate Engineering Controls: | Use only with adequate ventilation. If user operations generate fumes, gas , vapor or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below recommended or statutory limits. .  |
| Hygiene Measures:                 | Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking, using the washroom and at the end of working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. |
| Eye/Face Protection               | Safety eyewear complying with an approved standard should be used. If contact is possible wear chemical splash goggles.  |
| Respiratory                       | Use respiratory protection unless adequate local exhaust ventilation is provided.<br>Filter type: Organic Vapor Type.  |
| Gloves                            | Chemical-resistant, impervious gloves.   |
| Clothing                          | Protective clothing should be selected and used in accordance with “Guidelines for the Selection of Chemical Protective Clothing” published by ACGIH.  |
| Other/Type                        | Eyewash fountain. Emergency shower should be in close proximity.   |

## Section 9. Physical and Chemical Properties

|                                       |                         |
|---------------------------------------|-------------------------|
| Physical State                        | Liquid.                 |
| Odor and appearance                   | Pungent, characteristic |
| Specific Gravity (H <sub>2</sub> O=1) | Not available           |
| Odor Threshold(ppm)                   | Not available.          |
| Vapor Pressure (mm Hg)                | Not available.          |
| Vapor Density (Air=1)                 | Not available.          |
| Evaporation Rate                      | Not applicable.         |
| Boiling Point                         | Not available           |
| pH                                    | Not available           |
| Solubility in Water                   | Not available           |
| Coefficient of Water/Oil              | Not available,          |
| Flash Point                           | <14°C                   |

## Section 10. Stability and Reactivity

|                                     |   |
|-------------------------------------|---|
| Reactivity                          | Stable under normal conditions  |
| Stability                           | Stable under normal conditions.   |
| Conditions to Avoid                 | Strong Oxidizer, Keep away from heat, flame, sparks, and other ignition sources.  |
| Incompatibility                     | Plastics, Strong oxidizing agents, strong acids, strong bases, aliphatic amines, nitrates.  |
| Hazardous products of Decomposition | Acetic Acid, Carbon oxides  |
| Other Hazards                       | Reacts with considerable heat release with some curing agents. Heating this product above 300° F in the presence of air may cause slow oxidative decomposition; above 500° F polymerization may occur.<br>Some combinations of resins and curing agents can produce exothermic reactions which in large masses can cause runaway polymerization and charring of the reactants. Fumes and vapors from the thermal and chemical decompositions vary widely in composition and toxicity. |

## Section 11. Toxicological Information

No Data for Product Itself

### Acute Toxicity

|                           | LD50                          | LC50                         |
|---------------------------|-------------------------------|------------------------------|
| Benzyl Alcohol            | Oral (Rat) 1,230 mg/kg        | Inhalation (Rat) >4.178 mg/l |
|                           | Dermal (Rabbit) 2,000 mg/kg   |                              |
| Isophorone Diamine        | Oral (Rat) 1,030 mg/kg        |                              |
| Phenol,4-Nonyl-, Branched | Oral (Rat) 1,300 mg/kg        |                              |
| N-(aminoethyl)piperazine  | Oral (Rat) > 1000 mg/kg       |                              |
|                           | Dermal (Rabbit) 866 mg/kg     |                              |
| Diethylenetriamine        | Oral (Rat) 1,080 mg/kg        |                              |
|                           | Dermal (Rabbit) 675 mg/kg     |                              |
| Tert-butyl acetate        | (Estimate) Inhalation 11 mg/l |                              |

**Specific Target Organ Toxicity**

|                           |   |
|---------------------------|---|
| Benzyl Alcohol            | Respiratory Tract Irritation, Narcotic Effects (single exposure)<br>Central Nervous System (repeated exposure)  |
| Isophorone Diamine        | Respiratory Tract Irritation, Narcotic Effects (single exposure)  |
| Amine-Epoxy Resin Adduct  | Respiratory Tract Irritation, Narcotic Effects (single exposure)<br>Skin, Respiratory Tract (repeated exposure) |
| Phenol,4-Nonyl-, Branched | Blood, Liver, Lungs (repeated exposure)   |
| N-(aminoethyl)piperazine  | Skin, Lungs (single exposure)   |
| Diethylenetriamine        | Eyes, Nervous System (single exposure)<br>Kidneys, Skin, Lungs, Liver (repeated exposure)                       |
| Tert-butyl acetate        | Respiratory Tract Irritation, Central Nervous System with Narcotic Effects (single exposure)                    |

**Potential Acute Health Effects**

|              |   |
|--------------|---|
| Eye Contact  | Causes serious eye damage   |
| Inhalation   | Causes central nervous system depression. May cause drowsiness and dizziness. May cause respiratory irritation. May cause allergy or asthma symptoms or breathing difficulties if inhaled. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure. |
| Skin Contact | Causes severe burns. Harmful in contact with skin. May cause an allergic skin reaction.   |
| Ingestion    | Harmful if swallowed. Can cause central nervous system depression. May cause burns to mouth, throat, and stomach.   |

**Symptoms related to the physical, chemical, and toxicological characteristics.**

|              |  |
|--------------|--|
| Eye Contact  | Pain, watering, redness.   |
| Inhalation   | Respiratory tract irritation, coughing, wheezing and breathing difficulties, asthma, nausea or vomiting, headache, drowsiness/fatigue, dizziness/vertigo, unconsciousness, reduced fetal weight, increase in fetal deaths, skeletal malformations. |
| Skin Contact | Pain or irritation, redness, blistering may occur, reduced fetal weight, increase in fetal deaths, skeletal malformations.   |
| Ingestion    | Stomach pains, reduced fetal weight, increase in fetal deaths, skeletal malformations.   |

**Potential Chronic Health Effects**

|                       |   |
|-----------------------|---|
| General               | Causes damage to organs through prolonged or repeated exposure: once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels. |
| Carcinogenicity       | No known significant effects or critical hazards.   |
| Mutanogenicity        | No known significant effects or critical hazards.   |
| Teratogenicity        | Suspected of damaging the unborn child.   |
| Developmental effects | No known significant effects or critical hazards.   |
| Fertility Effects     | Suspected of damaging fertility.  |

## Section 12. Ecological Information

### Toxicity

No Data for product itself

|                               |                           |      |                              |
|-------------------------------|---------------------------|------|------------------------------|
| Benzyl Alcohol                | Acute (Fish, 96 hr)       | LC50 | 10,000 ug/l (fresh water)    |
| Phenol,4-Nonyl-, Branched     | Acute (Blue Gill, 96 hr)  | LC50 | 135.1 ug/l (fresh water)     |
|                               | Acute (Green Algae,72 hr) | EC50 | 0.33 mg/l                    |
|                               | Acute (Green Algae,96 hr) | EC50 | 0.41 mg/l                    |
| 2- piperazine –1-ylethylamine | Acute (Fish 96 hr)        | LC50 | 2,190,000 ug/l (fresh water) |
| 2,2`-iminodiethylamine        | Acute (Daphnia, 48 hr)    | LC50 | 16 mg/l                      |
|                               | Acute (Water Flea, 48 hr) | LC50 | 53,500 ug/l (fresh water)    |
|                               | Acute (Green Algae,72 hr) | EC50 | 1,164 mg/l                   |
|                               | Acute (Green Algae,96 hr) | EC50 | 345,60 ug/l (fresh water)    |

Tert-butyl acetate No data available

**Persistence/Degradability** Not Available

### Bioaccumulation Potential

|                           |           |             |
|---------------------------|-----------|-------------|
| Benzyl Alcohol            | LogPow    | 1.1         |
|                           | BCF       | -           |
|                           | Potential | Low         |
| Phenol,4-Nonyl-, Branched | LogPow    | 5.4         |
|                           | BCF       | 2.4         |
|                           | Potential | Low         |
| N-(aminoethyl)piperazine  | LogPow    | -1.48       |
|                           | BCF       | -           |
|                           | Potential | Low         |
| Diethylenetriamine        | LogPow    | -1.3        |
|                           | BCF       | 0.65 – 2.80 |
|                           | Potential | Low         |

## Section 13. Disposal Considerations

Waste Disposal The generation of waste should be avoided or minimized wherever possible. Disposal should be in accordance with federal, provincial and municipal regulations.

## Section 14. Transport Information

|        |   |
|--------|---|
| Canada | TDG<br>UN3469, PAINT, FLAMMABLE, CORROSIVE, CLASS 3 (SUBSIDIARY CLASS 8), PG II.  |
|        | IATA<br>UN3469, PAINT, FLAMMABLE, CORROSIVE, CLASS 3 (SUBSIDIARY CLASS 8), PG II. |

## Section 15. Regulatory Information

|                |                                       |  |
|----------------|---------------------------------------|--|
| Canada         | DSL: All components listed or exempt  |  |
| Canadian Lists | NPRI<br>CEPA Toxic Substances         | Listed: Phenol, 4-nonyl-, branched<br>Listed: Phenol, 4-nonyl-, branched |
| USA            | TSCA: All components listed or exempt |  |

## Section 16. Other Information

Revision Date Mar. 18, 2020

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