

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015) Issue date: 3/9/2023 Revision date: 3/22/2023 Supersedes: 3/9/2023 Version: 2.0

SECTION 1: Identification

1.1. Product identifier

Product form : Mixture

Product name : Alsan Flashing - Alsan Flashing Winter Part A

CA U DRU SS FS 011 Document code : Trade product Product group

1.2. Recommended use and restrictions on use

Product use : One-component bitumen/polyurethane waterproofing resin

1.3. Supplier

Soprema Inc 1640, Haggerty Street Drummondville, Quebec J2C 5P8

T+1 (877) 626-6688

1.4. Emergency telephone numbers

Emergency numbers : Canutec : +1-888-CANUTEC (226-8832) (North America)

> Chemtrec: +1 (800) 424-9300 Soprema: +1 (877) 626-6688

SECTION 2: Hazard identification

2.1. Classification of the substance or mixture

Classification (GHS CA)

| Flammable liquids, Category 2 | H225 | Highly flammable liquid and vapour. |
|--|------|---|
| Corrosive to metals, Category 1 | H290 | May be corrosive to metals. |
| Acute toxicity (inhalation:dust,mist) Category 2 | H330 | Fatal if inhaled. |
| Skin corrosion/irritation, Category 2 | H315 | Causes skin irritation. |
| Serious eye damage/eye irritation, Category 2B | H320 | Causes eye irritation |
| Respiratory sensitisation, Category 1 | H334 | May cause allergy or asthma symptoms or breathing difficulties if |
| | | inhaled. |
| Skin sensitisation, Category 1 | H317 | May cause an allergic skin reaction. |
| Carcinogenicity, Category 2 | H351 | Suspected of causing cancer (Inhalation, Dermal, oral). |
| Specific target organ toxicity – Repeated exposure, Category 2 | H373 | May cause damage to organs through prolonged or repeated exposure (Inhalation, Dermal, oral). |

Full text of H-statements: see section 16

2.2. GHS Label elements, including precautionary statements

GHS CA labelling

Hazard pictograms (GHS CA)









Signal word (GHS CA) : Danger

Hazard statements (GHS CA) : H225 - Highly flammable liquid and vapour.

H290 - May be corrosive to metals.

H315+H320 - Causes skin and eye irritation H317 - May cause an allergic skin reaction.

H330 - Fatal if inhaled.

H334 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.

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Precautionary statements (GHS CA)

according to the Hazardous Products Regulation (WHMIS 2015)

H351 - Suspected of causing cancer (Inhalation, Dermal, oral).

H373 - May cause damage to organs through prolonged or repeated exposure (Inhalation, Dermal, oral).

P201 - Obtain special instructions before use.

P202 - Do not handle until all safety precautions 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.

P234 - Keep only in original container.

P240 - Ground/bond container and receiving equipment.

P241 - Use explosion-proof electrical, lighting, ventilating equipment.

P242 - Use only non-sparking tools.

P243 - Take action to prevent static discharges.

P260 - Do not breathe mist, spray, vapours.

P261 - Avoid breathing dust/fume/gas/mist/vapours/spray.

P264 - Wash thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

P272 - Contaminated work clothing should not be allowed out of the workplace.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.

P284 - [In case of inadequate ventilation] wear respiratory protection.

P302+P352 - IF ON SKIN: Wash with plenty of water.

P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P308+P313 - IF exposed or concerned: Get medical advice/attention.

P310 - Immediately call a POISON CENTER, a doctor.

P314 - Get medical advice/attention if you feel unwell.

P320 - Specific treatment is urgent (see supplemental first aid instruction on this label).

P321 - Specific treatment (see supplemental first aid instruction on this label).

P332+P313 - If skin irritation occurs: Get medical advice/attention.

P333+P313 - If skin irritation or rash occurs: Get medical advice/attention.

P337+P313 - If eye irritation persists: Get medical advice/attention.

 ${\sf P342+P311-If\ experiencing\ respiratory\ symptoms:\ Call\ a\ POISON\ CENTER,\ a\ doctor.}$

P362+P364 - Take off contaminated clothing and wash it before reuse.

P370+P378 - In case of fire: Use dry extinguishing powder, carbon dioxide (CO2), alcohol resistant foam to extinguish.

P390 - Absorb spillage to prevent material damage.

P403+P233 - Store in a well-ventilated place. Keep container tightly closed.

P403+P235 - Store in a well-ventilated place. Keep cool

P405 - Store locked up.

P406 - Store in corrosive resistant container with a resistant inner liner.

P501 - Dispose of contents / container by a local waste disposal company according to regional regulations.

2.3. Other hazards

No additional information available

2.4. Unknown acute toxicity (GHS CA)

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

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according to the Hazardous Products Regulation (WHMIS 2015)

3.2. Mixtures

| Name | Chemical name / Synonyms | Product identifier | Conc. (% w/w) |
|--|--|---------------------|------------------|
| Asphalt | Asphalt | CAS-No.: 8052-42-4 | 30 – 60 |
| toluene | toluene | CAS-No.: 108-88-3 | 10 – 20 |
| butanone; ethyl methyl ketone | butanone; ethyl methyl ketone | CAS-No.: 78-93-3 | 5 – 10 |
| 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate | 4,4'-methylenediphenyl diisocyanate; diphenylmethane- 4,4'-diisocyanate | CAS-No.: 101-68-8 | 5 – 10 |
| titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter \leq 10 $\mu m]$ | titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] | CAS-No.: 13463-67-7 | 1 – 5 |
| 4-isocyanatosulphonyltoluene; tosyl isocyanate | 4-isocyanatosulphonyltoluene; tosyl isocyanate | CAS-No.: 4083-64-1 | 0.1 – 1 |

SECTION 4: First-aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing. Call a physician immediately.

Call a doctor.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin irritation or

rash occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to

do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

First-aid measures general : Call a physician immediately.

4.2. Most important symptoms and effects (acute and delayed)

Symptoms/effects after inhalation : May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Symptoms/effects after skin contact : Irritation. May cause an allergic skin reaction.

Symptoms/effects after eye contact : mild eye irritation.

4.3. Immediate medical attention and special treatment, if necessary

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Suitable extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide.

5.2. Unsuitable extinguishing media

No additional information available

5.3. Specific hazards arising from the hazardous product

Fire hazard : Highly flammable liquid and vapour. Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.4. Special protective equipment and precautions for fire-fighters

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing

apparatus. Complete protective clothing.

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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No additional information available

6.2. Methods and materials for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public

waters.

Other information : Dispose of materials or solid residues at an authorized site.

6.3. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection"

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the

container. Use explosion-proof equipment. Wear personal protective equipment. Obtain special

instructions before use. Do not handle until all safety precautions have been read and understood. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-

ventilated area. Avoid contact with skin and eyes.

Hygiene measures : Wash contaminated clothing before reuse. Contaminated work clothing should not be allowed

out of the workplace. Do not eat, drink or smoke when using this product. Always wash hands

after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store in corrosive

resistant container with a resistant inner liner. Keep only in original container. Store locked up.

Incompatible materials : Metals.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| toluene (108-88-3) | | |
|---|---|--|
| Canada (Alberta) - Occupational Exposure Limits | | |
| Local name | Toluene (Toluol) | |
| OEL TWA | 188 mg/m³ | |
| OEL TWA [ppm] | 50 ppm | |
| Notations and remarks | Substance may be readily absorbed through intact skin. | |
| Regulatory reference | Alberta Regulation 191/2021 | |
| Canada (Quebec) - Occupational Exposure Limits | | |
| Local name | Toluene | |
| VEMP (OEL TWA) [ppm] | 20 ppm | |
| Regulatory reference | S-2.1, r. 13 - Regulation respecting occupational health and safety | |
| Canada (British Columbia) - Occupational Exposure | e Limits | |
| Local name | Toluene | |

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| toluono (108-88-3) | | | | |
|--|---|--|--|--|
| toluene (108-88-3) | | | | |
| OEL TWA [ppm] | 20 ppm | | | |
| Notations and remarks | R (Adverse reproductive effect) | | | |
| Regulatory reference | OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC) | | | |
| Canada (Manitoba) - Occupational Exposure Limits | | | | |
| Local name | Toluene | | | |
| OEL TWA [ppm] | 20 ppm | | | |
| Notations and remarks | TLV® Basis: CNS, visual & hearing impair; female repro system eff; pregnancy loss. Notations: OTO; A4 (Not classifiable as a Human Carcinogen); BEI | | | |
| Regulatory reference | ACGIH 2022 | | | |
| Canada (Nova Scotia) - Occupational Exposure Lim | its | | | |
| Local name | Toluene | | | |
| OEL TWA [ppm] | 20 ppm | | | |
| Notations and remarks | TLV® Basis: CNS, visual & hearing impair; female repro system eff; pregnancy loss. Notations: OTO; A4 (Not classifiable as a Human Carcinogen); BEI | | | |
| Regulatory reference | ACGIH 2022 | | | |
| Canada (Ontario) - Occupational Exposure Limits | | | | |
| Local name | Toluene | | | |
| OEL TWA [ppm] | 20 ppm | | | |
| Regulatory reference | Ontario Occuational Exposure Limits under Regulation 833 | | | |
| Canada (Saskatchewan) - Occupational Exposure Limits | | | | |
| Local name | Toluene (toluol) | | | |
| OEL TWA [ppm] | 50 ppm | | | |
| OEL STEL [ppm] | 60 ppm | | | |
| Notations and remarks | Skin | | | |
| Regulatory reference | The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 | | | |
| Asphalt (8052-42-4) | Asphalt (8052-42-4) | | | |
| Canada (Alberta) - Occupational Exposure Limits | | | | |
| Local name | Asphalt (Petroleum; Bitumen) fume | | | |
| OEL TWA | 5 mg/m³ | | | |
| Notations and remarks | Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. | | | |
| Regulatory reference | Alberta Regulation 191/2021 | | | |
| Canada (Quebec) - Occupational Exposure Limits | | | | |
| Local name | Asphalt (petroleum) fumes | | | |
| VEMP (OEL TWA) | 5 mg/m³ | | | |
| Regulatory reference | S-2.1, r. 13 - Regulation respecting occupational health and safety | | | |
| Canada (British Columbia) - Occupational Exposure | e Limits | | | |
| Local name | Asphalt (Bitumen) fume, as benzene-soluble aerosol | | | |
| | I | | | |

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| OEL TWA OLS mg/m² (Inhalable) Notations and remarks IARC group 2A carcinogen - Bitumens, occupational exposure to oxidized bitumens and their emissions during road paving, IARC group 2B carcinogen - Bitumens, occupational exposure to straight-run bitumens and their emissions during road paving. Regulatory reference OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC) Canada (Manitoba) - Occupational Exposure Limits Local name Asphat (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Nova Scotla) - Occupational Exposure Limits Local name Asphat (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphat (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable fraction) Regulatory reference Ontario Occupational Exposure Limits Local name Asphat (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable fraction) Regulatory reference Ontario Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits under Regulation 834 Decension of the particulation 834 Canada (Quebec) - Occupational Exposure Limits | Asphalt (8052-42-4) | | |
|---|--|--|--|
| emissions during road poxing. IARC group 28 carcinogen - Bittmens, occupational exposure to straight-run bitumens and their emissions during road paving. Regulatory reference OHS Guidelines Part S: Chemical Agents and Biological Agents (WorkSafe BC) Canada (Manitoba) - Occupational Exposure Limits Local name Asphalt (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mgm² (1 - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Nova Scotia) - Occupational Exposure Limits Local name Asphalt (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mgm² (1 - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP AcGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mgm² (1 - Inhalable fraction) Regulatory reference Ontario Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mgm² (inhalable fraction) OEL STEL 1.5 mgm² (inhalable fraction) OEL STEL 1.5 mgm² (inhalable fraction) OEL STEL 1.5 mgm² (inhalable fraction) OEL TWA 0.5 mgm² (inhalable fraction) Canada (Alberta) - Occupational Exposure Limits Local name Thanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Thanium dioxide Occupational Exposure Limits Local name Thanium dioxide OEL TWA 10 mgm² Notations and remarks 10 mgm² Td Not | OEL TWA | 0.5 mg/m³ Inhalable | |
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| Asphalt (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Nova Scotia) - Occupational Exposure Limits Local name Asphalt (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable fraction) Regulatory reference Ontario Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable fraction) Regulatory reference Ontario Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m² (Inhalable fraction) OEL STEL 1.5 mg/m² (Inhalable fraction) OEL STEL 1.5 mg/m² (Inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alborta) - Occupational Exposure Limits Local name Titanium dioxide Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m² Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Regulatory reference | OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC) | |
| OEL TWA O.5 mg/m³ (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Nova Scotia) - Occupational Exposure Limits Local name Asphalt (Bitumen) fumes, as benzene-soluble aerosol OEL TWA O.5 mg/m² (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA O.5 mg/m² (I - Inhalable fraction) Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene-soluble aerosol OEL TWA O.5 mg/m² (inhalable fraction) OEL TWA O.5 mg/m² (inhalable fraction) OEL STEL 1.5 mg/m² (inhalable fraction) OEL STEL 1.5 mg/m² (inhalable fraction) Titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA Orgynational exposure Limits Local name Titanium dioxide OEL TWA Orgynational exposure Limits is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide Titanium dioxide Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Canada (Manitoba) - Occupational Exposure Limits | | |
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| Canada (Nova Scotia) - Occupational Exposure Limits Local name Asphalt (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable fraction) Regulatory reference Ontario Occupational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (inhalable fraction) OEL STEL 1.5 mg/m² (inhalable fraction) OEL STEL 1.5 mg/m² (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titianium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m² Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m² Td Notations and remarks Note the substantian 1% of the processing in the percentage in crystalline silica is less than 1% | Notations and remarks | TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP | |
| Asphalt (Bitumen) fumes, as benzene-soluble aerosol OEL TWA 0.5 mg/m³ (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (I - Inhalable fraction) Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (inhalable fraction) OEL TWA 0.5 mg/m² (inhalable fraction) OEL TWA 0.5 mg/m² (inhalable fraction) Regulatory reference 1.5 mg/m² (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titianium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m² Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Regulatory reference | ACGIH 2022 | |
| OEL TWA O.5 mg/m³ (I - Inhalable particulate matter) Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA O.5 mg/m³ (I - Inhalable fraction) Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA O.5 mg/m³ (Inhalable fraction) OEL STEL 1.5 mg/m³ (Inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Canada (Nova Scotia) - Occupational Exposure Lim | nits | |
| Notations and remarks TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m³ (I - Inhalable fraction) Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Local name | Asphalt (Bitumen) fumes, as benzene-soluble aerosol | |
| Regulatory reference ACGIH 2022 Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m³ (I - Inhalable fraction) Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Note 1: The standard corresponds to dust containing no asbestos and the percentage | OEL TWA | 0.5 mg/m³ (I - Inhalable particulate matter) | |
| Canada (Ontario) - Occupational Exposure Limits Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m² (1 - Inhalable fraction) Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m² (inhalable fraction) OEL STEL 1.5 mg/m² (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m² Td Nota 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Notations and remarks | TLV® Basis: URT & eye irr. Notations: A4 (Not classifiable as a Human Carcinogen); BEIP | |
| Local name Asphalt (Bitumen) fume, as benzene-soluble aerosol OEL TWA 0.5 mg/m³ (I - Inhalable fraction) Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Regulatory reference | ACGIH 2022 | |
| OEL TWA 0.5 mg/m³ (I - Inhalable fraction) Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Nota 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Canada (Ontario) - Occupational Exposure Limits | | |
| Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 Ititanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Local name | Asphalt (Bitumen) fume, as benzene-soluble aerosol | |
| Canada (Saskatchewan) - Occupational Exposure Limits Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | OEL TWA | 0.5 mg/m³ (I - Inhalable fraction) | |
| Local name Asphalt (bitumen) fume, as benzene soluble aerosol OEL TWA 0.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Regulatory reference | Ontario Occuational Exposure Limits under Regulation 833 | |
| OEL TWA O.5 mg/m³ (inhalable fraction) OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Canada (Saskatchewan) - Occupational Exposure L | Limits | |
| OEL STEL 1.5 mg/m³ (inhalable fraction) Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Local name | Asphalt (bitumen) fume, as benzene soluble aerosol | |
| Regulatory reference The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | OEL TWA | 0.5 mg/m³ (inhalable fraction) | |
| titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm] (13463-67-7) Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | OEL STEL | 1.5 mg/m³ (inhalable fraction) | |
| Canada (Alberta) - Occupational Exposure Limits Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Regulatory reference | The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 | |
| Local name Titanium dioxide OEL TWA 10 mg/m³ Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | titanium dioxide; [in powder form containing | 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | |
| Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Canada (Alberta) - Occupational Exposure Limits | | |
| Notations and remarks Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Local name | Titanium dioxide | |
| unusual work schedules is not required. Regulatory reference Alberta Regulation 191/2021 Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | OEL TWA | 10 mg/m³ | |
| Canada (Quebec) - Occupational Exposure Limits Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Notations and remarks | | |
| Local name Titanium dioxide VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Regulatory reference | Alberta Regulation 191/2021 | |
| VEMP (OEL TWA) 10 mg/m³ Td Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Canada (Quebec) - Occupational Exposure Limits | | |
| Notations and remarks Note 1: The standard corresponds to dust containing no asbestos and the percentage in crystalline silica is less than 1% | Local name | Titanium dioxide | |
| crystalline silica is less than 1% | VEMP (OEL TWA) | 10 mg/m³ Td | |
| Regulatory reference S-2.1, r. 13 - Regulation respecting occupational health and safety | Notations and remarks | | |
| | Regulatory reference | S-2.1, r. 13 - Regulation respecting occupational health and safety | |

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| titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | | | |
|---|---|--|--|
| Canada (British Columbia) - Occupational Exposure | e Limits | | |
| Local name | Titanium dioxide | | |
| OEL TWA | 10 mg/m³ Total dust 3 mg/m³ Respirable fraction | | |
| Notations and remarks | IARC group 2B carcinogen | | |
| Regulatory reference | OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC) | | |
| Canada (Manitoba) - Occupational Exposure Limits | | | |
| Local name | Titanium dioxide | | |
| OEL TWA | 0.2 mg/m³ (Nanoscale particles. R - Repirable particulate matter) 2.5 mg/m³ (Finescale particles. R - Repirable particulate matter) | | |
| Notations and remarks | TLV® Basis: LRT irr; pneumoconiosis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans) | | |
| Regulatory reference | ACGIH 2022 | | |
| Canada (New Brunswick) - Occupational Exposure | Limits | | |
| Local name | Titanium dioxide | | |
| OEL TWA | 10 mg/m³ | | |
| Notations and remarks | LRT irr | | |
| Canada (Nova Scotia) - Occupational Exposure Lim | iits | | |
| Local name | Titanium dioxide | | |
| OEL TWA | 0.2 mg/m³ (Nanoscale particles. R - Repirable particulate matter) 2.5 mg/m³ (Finescale particles. R - Repirable particulate matter) | | |
| Notations and remarks | TLV® Basis: LRT irr; pneumoconiosis. Notations: A3 (Confirmed Animal Carcinogen with Unknown Relevance to Humans) | | |
| Regulatory reference | ACGIH 2022 | | |
| Canada (Ontario) - Occupational Exposure Limits | | | |
| Local name | Titanium dioxide | | |
| OEL TWA | 10 mg/m³ | | |
| Regulatory reference | Ontario Occuational Exposure Limits under Regulation 833 | | |
| Canada (Saskatchewan) - Occupational Exposure L | Canada (Saskatchewan) - Occupational Exposure Limits | | |
| Local name | Titanium dioxide | | |
| OEL TWA | 10 mg/m³ | | |
| OEL STEL | 20 mg/m³ | | |
| Regulatory reference | The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 | | |
| butanone; ethyl methyl ketone (78-93-3) | | | |
| Canada (Alberta) - Occupational Exposure Limits | | | |
| Local name | Methyl ethyl ketone (MEK; 2-Butanone) | | |
| OEL TWA | 590 mg/m³ | | |
| OEL TWA [ppm] | 200 ppm | | |
| OEL STEL | 885 mg/m³ | | |

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| butanone; ethyl methyl ketone (78-93-3) | | |
|---|--|--|
| OEL STEL [ppm] 300 ppm | | |
| Regulatory reference | Alberta Regulation 191/2021 | |
| Canada (Quebec) - Occupational Exposure Limits | | |
| Local name | Methyl ethyl ketone (MEK, 2-Butanone) | |
| VECD (OEL STEL) | 300 mg/m³ | |
| VECD (OEL STEL) [ppm] | 100 ppm | |
| VEMP (OEL TWA) | 150 mg/m³ | |
| VEMP (OEL TWA) [ppm] | 50 ppm | |
| Regulatory reference | S-2.1, r. 13 - Regulation respecting occupational health and safety | |
| Canada (British Columbia) - Occupational Exposure | e Limits | |
| Local name | Methyl ethyl ketone (MEK) | |
| OEL TWA [ppm] | 50 ppm | |
| OEL STEL [ppm] | 100 ppm | |
| Regulatory reference | OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC) | |
| Canada (Manitoba) - Occupational Exposure Limits | | |
| Local name | Methyl ethyl ketone (MEK) | |
| OEL TWA [ppm] | 200 ppm | |
| OEL STEL [ppm] | 300 ppm | |
| Notations and remarks | TLV® Basis: URT irr; CNS & PNS impair. Notations: BEI | |
| Regulatory reference | ACGIH 2022 | |
| Canada (New Brunswick) - Occupational Exposure | Limits | |
| Local name | Methyl ethyl ketone (MEK) | |
| OEL TWA [ppm] | 200 ppm | |
| OEL STEL [ppm] | 300 ppm | |
| Notations and remarks | URT irr; CNS & PNS impair | |
| Canada (Nova Scotia) - Occupational Exposure Lim | its | |
| Local name | Methyl ethyl ketone (MEK) | |
| OEL TWA [ppm] | 200 ppm | |
| OEL STEL [ppm] | 300 ppm | |
| Notations and remarks | TLV® Basis: URT irr; CNS & PNS impair. Notations: BEI | |
| Regulatory reference | ACGIH 2022 | |
| Canada (Ontario) - Occupational Exposure Limits | | |
| Local name | Methyl ethyl ketone (MEK) | |
| OEL TWA [ppm] | 200 ppm | |
| OEL STEL [ppm] | 300 ppm | |
| Regulatory reference | Ontario Occuational Exposure Limits under Regulation 833 | |

Safety Data Sheet

| according to the Hazardous Products Regulation (WHINIS 2015) | | | |
|--|---|--|--|
| | butanone; ethyl methyl ketone (78-93-3) | | |
| Canada (Saskatchewan) - Occupational Exposure L | | | |
| Local name | Methyl ethyl ketone (MEK) | | |
| OEL TWA [ppm] | 200 ppm | | |
| OEL STEL [ppm] | 300 ppm | | |
| Regulatory reference | The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 | | |
| 4,4'-methylenediphenyl diisocyanate; dipheny | rlmethane-4,4'-diisocyanate (101-68-8) | | |
| Canada (Alberta) - Occupational Exposure Limits | | | |
| Local name | Methylene bisphenyl isocyanate (Diphenylmethane-4,4'-diisocyanate; MDI) | | |
| OEL TWA | 0.05 mg/m³ | | |
| OEL TWA [ppm] | 0.005 ppm | | |
| Regulatory reference | Alberta Regulation 191/2021 | | |
| Canada (Quebec) - Occupational Exposure Limits | | | |
| Local name | Methylene bis(4-phenyl isocyanate) (MDI, 4,4'-Diphenylmethanediisocyanate) | | |
| VEMP (OEL TWA) | 0.051 mg/m³ | | |
| VEMP (OEL TWA) [ppm] | 0.005 ppm | | |
| Notations and remarks | EM, S | | |
| Regulatory reference | S-2.1, r. 13 - Regulation respecting occupational health and safety | | |
| Canada (British Columbia) - Occupational Exposure | e Limits | | |
| Local name | Methylene bisphenyl isocyanate (MDI) | | |
| OEL TWA [ppm] | 0.005 ppm | | |
| OEL C [ppm] | 0.01 ppm | | |
| Notations and remarks | S(R) (respiratory sensitization) | | |
| Regulatory reference | OHS Guidelines Part 5: Chemical Agents and Biological Agents (WorkSafe BC) | | |
| Canada (Manitoba) - Occupational Exposure Limits | | | |
| Local name | Methylene bisphenyl isocyanate (MDI) | | |
| OEL TWA [ppm] | 0.005 ppm | | |
| Notations and remarks | TLV® Basis: Resp sens | | |
| Regulatory reference | ACGIH 2022 | | |
| Canada (Nova Scotia) - Occupational Exposure Limits | | | |
| Local name | Methylene bisphenyl isocyanate (MDI) | | |
| OEL TWA [ppm] | 0.005 ppm | | |
| Notations and remarks | TLV® Basis: Resp sens | | |
| Regulatory reference | ACGIH 2022 | | |
| Canada (Ontario) - Occupational Exposure Limits | Canada (Ontario) - Occupational Exposure Limits | | |
| Local name | Isocyanates, organic compounds - Methylene bisphenyl isocyanate (MDI) | | |
| OEL TWA [ppm] | 0.005 ppm | | |
| OEL C [ppm] | 0.02 ppm | | |
| | | | |

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)

| 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8) | | |
|---|---|--|
| Regulatory reference Ontario Occuational Exposure Limits under Regulation 833 | | |
| Canada (Saskatchewan) - Occupational Exposure Limits | | |
| Local name | Methylene bisphenyl isocyanate (MDI) | |
| OEL TWA [ppm] | 0.005 ppm | |
| OEL STEL [ppm] | 0.015 ppm | |
| Regulatory reference | The Occupational Health and Safety Regulations, 2020. Chapter S-15.1 Reg 10 | |

8.2. Appropriate engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station.

Environmental exposure controls : Avoid release to the environment.

8.3. Individual protection measures/Personal protective equipment

| Hand protection: | |
|-------------------|--|
| Protective gloves | |

| Eye protection: | |
|-----------------|--|
| Safety glasses | |

| Skin and body protection: |
|-----------------------------------|
| Wear suitable protective clothing |

| Respiratory protection: |
|--|
| [In case of inadequate ventilation] wear respiratory protection. |

Personal protective equipment symbol(s):







SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state : Liquid
Appearance : Viscous liquid.
Colour : brown
Odour : Solvent

Odour threshold : No data available pH : No data available Relative evaporation rate (butylacetate=1) : No data available Relative evaporation rate (ether=1) : No data available Melting point : No data available Freezing point : No data available

Boiling point : $80 \, ^{\circ}\text{C}$ Flash point : $10.5 \, ^{\circ}\text{C}$ Auto-ignition temperature : $505 \, ^{\circ}\text{C}$

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)

Decomposition temperature : No data available Flammability (solid, gas) : Not applicable Vapour pressure : No data available Relative vapour density at 20°C : No data available

Relative density : 1.07

Solubility : insoluble in water. Water: 0 %

Partition coefficient n-octanol/water (Log Pow) : No data available
Viscosity, kinematic : 30000 mm²/s @40°C
Explosive limits : No data available

9.2. Other information

VOC content : 225 g/L

SECTION 10: Stability and reactivity

Reactivity : Highly flammable liquid and vapour.
Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reactions known under normal conditions of use.

Conditions to avoid : Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

Incompatible materials : metals

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be

produced.

Hardening time: : No additional information available

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Not classified
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Fatal if inhaled

| Acute toxicity (innaiation) | Fatal If Innaled. | |
|---|--|--|
| Alsan Flashing | | |
| ATE CA (dust,mist) | 0.146 mg/l/4h | |
| Asphalt (8052-42-4) | | |
| LD50 oral rat | ≥ 5000 mg/kg Source: ECHA | |
| LD50 dermal rabbit | > 2000 mg/kg Source: ECHA | |
| LC50 Inhalation - Rat | > 94.4 mg/m³ Source: ECHA | |
| ATE CA (dust,mist) | 0.05 mg/l/4h | |
| titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | | |
| LD50 oral rat | > 5000 mg/kg bodyweight Animal: rat, Animal sex: female, Guideline: OECD Guideline 425 (Acute Oral Toxicity: Up-and-Down Procedure), Guideline: EPA OPPTS 870.1100 (Acute Oral Toxicity) | |
| LC50 Inhalation - Rat (Dust/Mist) | > 6.82 mg/l Source: ECHA | |
| 4-isocyanatosulphonyltoluene; tosyl isocyanate (4083-64-1) | | |
| LD50 oral rat | 2234 mg/kg Source: National Library of Medicine | |
| LD50 dermal rat | > 2000 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 402 (Acute Dermal Toxicity), Guideline: EU Method B.3 (Acute Toxicity (Dermal)), Remarks on results: other: | |
| LC50 Inhalation - Rat (Vapours) | > 1290 mg/l Source: National Library of Medicine | |

Safety Data Sheet

| according to the Hazardous Products Regulation (WHM | IS 2015) | | |
|--|---|--|--|
| 4-isocyanatosulphonyltoluene; tosyl isocyanate (4083-64-1) | | | |
| ATE CA (oral) | 2234 mg/kg bodyweight | | |
| 4,4'-methylenediphenyl diisocyanate; di | phenylmethane-4,4'-diisocyanate (101-68-8) | | |
| ATE CA (Gases) | 4500 ppmv/4h | | |
| ATE CA (vapours) | 11 mg/l/4h | | |
| ATE CA (dust,mist) | 1.5 mg/l/4h | | |
| Skin corrosion/irritation | : Causes skin irritation. | | |
| titanium dioxide; [in powder form conta | titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | | |
| рН | 7 Source: ECHA | | |
| Serious eye damage/irritation | : Causes eye irritation. | | |
| titanium dioxide; [in powder form conta | ining 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | | |
| pH | 7 Source: ECHA | | |
| Respiratory or skin sensitization | : May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic | | |
| Germ cell mutagenicity | skin reaction. : Not classified | | |
| Carcinogenicity | : Suspected of causing cancer (Inhalation, Dermal, oral). | | |
| toluene (108-88-3) | | | |
| IARC group | 3 - Not classifiable | | |
| Asphalt (8052-42-4) | | | |
| IARC group | 2B - Possibly carcinogenic to humans | | |
| titanium dioxide; [in powder form conta | ining 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | | |
| IARC group | 2B - Possibly carcinogenic to humans | | |
| 4,4'-methylenediphenyl diisocyanate; di | phenylmethane-4,4'-diisocyanate (101-68-8) | | |
| IARC group | 3 - Not classifiable | | |
| Reproductive toxicity | : Not classified | | |
| STOT-single exposure | : Not classified | | |
| toluene (108-88-3) | | | |
| STOT-single exposure | May cause drowsiness or dizziness. | | |
| butanone; ethyl methyl ketone (78-93-3) | | | |
| STOT-single exposure | May cause drowsiness or dizziness. | | |
| 4-isocyanatosulphonyltoluene; tosyl iso | ocyanate (4083-64-1) | | |
| STOT-single exposure | May cause respiratory irritation. | | |
| 4,4'-methylenediphenyl diisocyanate; di | phenylmethane-4,4'-diisocyanate (101-68-8) | | |
| STOT-single exposure | May cause respiratory irritation. | | |
| STOT-repeated exposure | : May cause damage to organs through prolonged or repeated exposure (Inhalation, Dermal, oral). | | |
| toluene (108-88-3) | | | |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. | | |

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according to the Hazardous Products Regulation (WHMIS 2015)

| 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8) | | |
|---|--|--|
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. | |
| Aspiration hazard : | Not classified. | |
| Alsan Flashing | | |
| Viscosity, kinematic | 30000 mm²/s @40°C | |
| toluene (108-88-3) | | |
| Animal studies and expert judgment for classification | False | |
| Asphalt (8052-42-4) | | |
| Animal studies and expert judgment for classification | False | |
| titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | | |
| Viscosity, kinematic | Not applicable | |
| Animal studies and expert judgment for classification | False | |
| butanone; ethyl methyl ketone (78-93-3) | | |
| Animal studies and expert judgment for classification | False | |
| 4-isocyanatosulphonyltoluene; tosyl isocyana | ate (4083-64-1) | |
| Animal studies and expert judgment for classification | False | |
| 4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8) | | |
| Animal studies and expert judgment for classification | False | |
| Symptoms/effects after inhalation : Symptoms/effects after skin contact : Symptoms/effects after eye contact : | May cause allergy or asthma symptoms or breathing difficulties if inhaled. Irritation. May cause an allergic skin reaction. mild eye irritation. | |

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse

effects in the environment.

Hazardous to the aquatic environment, short-term

: Not classified

Hazardous to the aquatic environment, long-term

(chronic)

: Not classified

| titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 μm] (13463-67-7) | | |
|---|---|--|
| LC50 - Fish [1] | > 100 mg/l | |
| EC50 - Other aquatic organisms [1] | > 100 mg/l Test organisms (species): | |
| EC50 72h - Algae [1] | > 50 mg/l Source: ECHA | |
| LOEC (chronic) | 5 mg/l Test organisms (species): Daphnia magna Duration: '21 d' | |
| 4-isocyanatosulphonyltoluene; tosyl isocyanate (4083-64-1) | | |
| LC50 - Fish [1] | 133 mg/l Source: Ecological Structure Activity Relationships | |
| EC50 - Crustacea [1] | > 100 mg/l Test organisms (species): Daphnia magna | |
| EC50 72h - Algae [1] | 30 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) | |

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)

| 4-isocyanatosulphonyltoluene; tosyl isocyanate (4083-64-1) | |
|--|---|
| 0 11 | 25 mg/l Test organisms (species): Pseudokirchneriella subcapitata (previous names: Raphidocelis subcapitata, Selenastrum capricornutum) |

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

| 4-isocyanatosulphonyltoluene; tosyl isocyanate (4083-64-1) | |
|--|------|
| Partition coefficient n-octanol/water (Log Pow) | 2.34 |

12.4. Mobility in soil

4-isocyanatosulphonyltoluene; tosyl isocyanate (4083-64-1)

12.5. Other adverse effects

Ozone : Not classified

SECTION 13: Disposal considerations

13.1. Disposal methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

In accordance with TDG / DOT / IMDG / IATA

14.1. UN number

 UN-No. (TDG)
 : UN1263

 DOT NA No
 : UN1263

 UN-No. (IMDG)
 : 1263

 UN-No. (IATA)
 : 1263

14.2. UN proper shipping name

Proper Shipping Name (TDG) : PAINT
Proper Shipping Name (DOT) : Paint
Proper Shipping Name (IMDG) : PAINT
Proper Shipping Name (IATA) : Paint

14.3. Transport hazard class(es)

TDG

Transport hazard class(es) (TDG) : 3
Hazard labels (TDG) : 3



DOT

Transport hazard class(es) (DOT) : 3 Hazard labels (DOT) : 3

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)



IMDG

Transport hazard class(es) (IMDG) Danger labels (IMDG) 3



IATA

Transport hazard class(es) (IATA) Danger labels (IATA) 3



14.4. Packing group

Packing group (TDG) : II Packing group (DOT) : 11 : 11 Packing group (IMDG) Packing group (IATA) : 11

14.5. Environmental hazards

Other information : No supplementary information available.

14.6. Special precautions for user

UN-No. (TDG)

TDG Special Provisions

: UN1263

: 59 - Substances that are listed by name in Schedule 1 must not be transported under this shipping name. Substances transported under this shipping name may contain not more than 20% nitrocellulose if the nitrocellulose contains not more than 12.6% nitrogen (by dry mass),142

- The following shipping names may be used to meet the requirements of Part 3

(Documentation) and Part 4 (Dangerous Goods Safety Marks) when these dangerous goods are offered for transport in the same means of containment:

(a) "PAINT RELATED MATERIAL" may be used for a means of containment containing both paint and paint related material;

(b) "PAINT RELATED MATERIAL, CORROSIVE, FLAMMABLE" may be used for a means of containment containing both paint, corrosive, flammable, and paint related material, corrosive, flammable:

(c) "PAINT RELATED MATERIAL, FLAMMABLE, CORROSIVE" may be used for a means of containment containing both paint, flammable, corrosive, and paint related material, flammable,

(d) "PRINTING INK RELATED MATERIAL" may be used for a means of containment containing both printing ink and printing ink related material.

Explosive Limit and Limited Quantity Index

Excepted quantities (TDG) : 5 L Passenger Carrying Road Vehicle or Passenger

Carrying Railway Vehicle Index

Emergency Response Guide (ERG) Number

: 5 L : E2

: 128

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DOT

UN-No.(DOT)

DOT Special Provisions (49 CFR 172.102)

· UN1263

: 149 - When transported as a limited quantity or a consumer commodity, the maximum net capacity specified in 173.150(b)(2) of this subchapter for inner packagings may be increased to 5 L (1.3 gallons).

367 - For the purposes of documentation and package marking: a. The proper shipping name "Paint related material" may be used for consignments of packages containing "Paint" and "Paint related material" in the same package; b. The proper shipping name "Paint related material, corrosive, flammable" may be used for consignments of packages containing "Paint, corrosive, flammable" and "Paint related material, corrosive, flammable" in the same package; c. The proper shipping name "Paint related material, flammable, corrosive" may be used for consignments of packages containing "Paint, flammable, corrosive" and "Paint related material, flammable, corrosive" in the same package; and d. The proper shipping name "Printing ink related material" may be used for consignments of packages containing "Printing ink" and "Printing ink related material" in the same package.

B52 - Notwithstanding the provisions of 173.24b of this subchapter, non-reclosing pressure relief devices are authorized on DOT 57 portable tanks.

B131 - When transported by highway, rail, or cargo vessel, waste Paint and Paint related material (UN1263; PG II and PG III), when in plastic or metal inner packagings of not more than 26.5 L (7 gallons), are excepted from the marking requirements in §172.301(a) and (c) and the labeling requirements in §172.400(a), when further packed in the following specification and non-specification bulk outer packagings and under the following conditions:

- a. Primary receptacles must conform to the general packaging requirements of subpart B of part 173 of this subchapter and may not leak. If they do leak, they must be overpacked in packagings conforming to the specification requirements of part 178 of this subchapter or in salvage packagings conforming to the requirements in §173.12 of this subchapter.
- b. Primary receptacles must be further packed in non-specification bulk outer packagings such as cubic yard boxes, plastic rigid-wall bulk containers, dump trailers, and roll-off containers. Bulk outer packagings must be liquid tight through design or by the use of lining materials.
- c. Primary receptacles may also be further packed in specification bulk outer packagings. Authorized specification bulk outer packagings are UN11G fiberboard intermediate bulk containers (IBC) and UN13H4 woven plastic, coated and with liner flexible intermediate bulk containers (FIBCs) meeting the Packing Group II performance level and lined with a plastic liner of at least 6 mil thickness.
- d. All inner packagings placed inside bulk outer packagings must be blocked and braced to prevent movement during transportation that could cause the container to open or fall over. Specification IBCs and FIBCs are to be secured to a pallet.

IB2 - Authorized IBCs: Metal (31A, 31B and 31N); Rigid plastics (31H1 and 31H2); Composite (31HZ1). Additional Requirement: Only liquids with a vapor pressure less than or equal to 110 kPa at 50 C (1.1 bar at 122 F), or 130 kPa at 55 C (1.3 bar at 131 F) are authorized.

T4 - 2.65 178.274(d)(2) Normal..... 178.275(d)(3)

TP1 - The maximum degree of filling must not exceed the degree of filling determined by the following: Degree of filling = 97 / (1 + a (tr - tf)) Where: tr is the maximum mean bulk temperature during transport, and tf is the temperature in degrees celsius of the liquid during filling.

TP8 - A portable tank having a minimum test pressure of 1.5 bar (150 kPa) may be used when the flash point of the hazardous material transported is greater than 0 C (32 F).

TP28 - A portable tank having a minimum test pressure of 2.65 bar (265 kPa) may be used provided the calculated test pressure is 2.65 bar or less based on the MAWP of the hazardous material, as defined in 178.275 of this subchapter, where the test pressure is 1.5 times the MAWP.

DOT Packaging Exceptions (49 CFR 173.xxx) : 150
DOT Packaging Non Bulk (49 CFR 173.xxx) : 173
DOT Packaging Bulk (49 CFR 173.xxx) : 242

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according to the Hazardous Products Regulation (WHMIS 2015)

DOT Quantity Limitations Passenger aircraft/rail (49 : 5 L

CFR 173.27)

DOT Quantity Limitations Cargo aircraft only (49 : 60 L

CFR 175.75)

DOT Vessel Stowage Location : B - (i) The material may be stowed "on deck" or "under deck" on a cargo vessel and on a

passenger vessel carrying a number of passengers limited to not more than the larger of 25 passengers, or one passenger per each 3 m of overall vessel length; and (ii) "On deck only" on passenger vessels in which the number of passengers specified in paragraph (k)(2)(i) of this

section is exceeded.

IMDG

Special provisions (IMDG) : 163, 367
Limited quantities (IMDG) : 5 L
Excepted quantities (IMDG) : E2
Packing instructions (IMDG) : P001
Special packing provisions (IMDG) : PP1
IBC packing instructions (IMDG) : IBC02
Tank instructions (IMDG) : T4

Tank special provisions (IMDG) : TP1, TP8, TP28

EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS EmS-No. (Spillage) : S-E - SPILLAGE SCHEDULE Echo - FLAMMABLE LIQUIDS, FLOATING ON WATER

Stowage category (IMDG) : B

Properties and observations (IMDG) : Miscibility with water depends upon the composition.

IATA

PCA Excepted quantities (IATA) : E2
PCA Limited quantities (IATA) : Y341
PCA limited quantity max net quantity (IATA) : 1L
PCA packing instructions (IATA) : 353
PCA max net quantity (IATA) : 5L
CAO packing instructions (IATA) : 364
CAO max net quantity (IATA) : 60L

Special provisions (IATA) : A3, A72, A192

ERG code (IATA) : 3L

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable

SECTION 15: Regulatory information

15.1. National regulations

toluene (108-88-3)

Listed on the Canadian DSL (Domestic Substances List)

Asphalt (8052-42-4)

Listed on the Canadian DSL (Domestic Substances List)

titanium dioxide; [in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm] (13463-67-7)

Listed on the Canadian DSL (Domestic Substances List)

butanone; ethyl methyl ketone (78-93-3)

Listed on the Canadian DSL (Domestic Substances List)

Safety Data Sheet

according to the Hazardous Products Regulation (WHMIS 2015)

4-isocyanatosulphonyltoluene; tosyl isocyanate (4083-64-1)

Listed on the Canadian DSL (Domestic Substances List)

4,4'-methylenediphenyl diisocyanate; diphenylmethane-4,4'-diisocyanate (101-68-8)

Listed on the Canadian DSL (Domestic Substances List)

SECTION 16: Other information

 Issue date
 : 09/03/2023

 Revision date
 : 22/03/2023

 Supersedes
 : 09/03/2023

| Full text of H-statements: | | |
|----------------------------|--|--|
| H225 | Highly flammable liquid and vapour. | |
| H290 | May be corrosive to metals. | |
| H315 | Causes skin irritation. | |
| H317 | May cause an allergic skin reaction. | |
| H320 | Causes eye irritation | |
| H330 | Fatal if inhaled. | |
| H334 | May cause allergy or asthma symptoms or breathing difficulties if inhaled. | |
| H351 | Suspected of causing cancer. | |
| H373 | May cause damage to organs through prolonged or repeated exposure. | |

Safety Data Sheet (SDS), Canada - Toxyscan

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.