



Fiberlock Piranha 4 5740

ICP Building Solutions Group (CAN)

Version No: 5.6

Safety Data Sheet according to WHMIS 2015 requirements

Issue Date: 01/22/2020

Print Date: 01/31/2020

S.GHS.CAN.EN

SECTION 1 IDENTIFICATION

Product Identifier

| | |
|-------------------------------|--------------------------|
| Product name | Fiberlock Piranha 4 5740 |
| Synonyms | Not Available |
| Other means of identification | Not Available |

Recommended use of the chemical and restrictions on use

| | |
|--------------------------|---------------|
| Relevant identified uses | Paint Remover |
|--------------------------|---------------|

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

| | |
|-------------------------|--|
| Registered company name | ICP Building Solutions Group (CAN) |
| Address | 555 Bay St. North Hamilton, Ontario L8L 1H1 Canada |
| Telephone | 978-623-9980 |
| Fax | Not Available |
| Website | www.icpgroup.com |
| Email | Not Available |

Emergency phone number

| | |
|-----------------------------------|----------------|
| Association / Organisation | Chemtel |
| Emergency telephone numbers | 1-800-255-3924 |
| Other emergency telephone numbers | 1-813-248-0585 |

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

NFPA 704 diamond



Note: The hazard category numbers found in GHS classification in section 2 of this SDSs are NOT to be used to fill in the NFPA 704 diamond. Blue = Health Red = Fire Yellow = Reactivity White = Special (Oxidizer or water reactive substances)

| | |
|----------------|---|
| Classification | Specific target organ toxicity - single exposure Category 2, Flammable Liquid Category 4, Serious Eye Damage Category 1, Reproductive Toxicity Category 1B, Chronic Aquatic Hazard Category 3 |
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Label elements

| | |
|---------------------|--|
| Hazard pictogram(s) | |
|---------------------|--|

| | |
|-------------|---------------|
| SIGNAL WORD | DANGER |
|-------------|---------------|

Hazard statement(s)

| | |
|------|--|
| H371 | May cause damage to organs. |
| H227 | Combustible liquid. |
| H318 | Causes serious eye damage. |
| H360 | May damage fertility or the unborn child. |
| H412 | Harmful to aquatic life with long lasting effects. |

Continued...

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Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) General

| | |
|-------------|---|
| P101 | If medical advice is needed, have product container or label at hand. |
| P102 | Keep out of reach of children. |

Precautionary statement(s) Prevention

| | |
|-------------|--|
| P201 | Obtain special instructions before use. |
| P210 | Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. |

Precautionary statement(s) Response

| | |
|-----------------------|--|
| 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/physician/first aider. |

Precautionary statement(s) Storage

| | |
|-------------|-----------------------------------|
| P403 | Store in a well-ventilated place. |
| P405 | Store locked up. |

Precautionary statement(s) Disposal

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

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

| CAS No | %[weight] | Name |
|-----------|-----------|-------------------------------|
| 872-50-4 | 45-50 | <u>N-methyl-2-pyrrolidone</u> |
| 627-93-0 | 40-45 | <u>dimethyl adipate</u> |
| 5989-27-5 | 0-5 | <u>d-limonene</u> |

SECTION 4 FIRST-AID MEASURES**Description of first aid measures**

| | |
|---------------------|--|
| Eye Contact | <p>If this product comes in contact with the eyes:</p> <ul style="list-style-type: none"> ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| Skin Contact | <p>If skin contact occurs:</p> <ul style="list-style-type: none"> ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation. |
| Inhalation | <ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary. |
| Ingestion | <ul style="list-style-type: none"> ▶ If swallowed do NOT induce vomiting. ▶ If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. ▶ Observe the patient carefully. ▶ Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. ▶ Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. ▶ Seek medical advice. ▶ Avoid giving milk or oils. ▶ Avoid giving alcohol. ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus. |

Indication of any immediate medical attention and special treatment needed

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

Treat symptomatically.

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for simple esters:

BASIC TREATMENT

- ▶ Establish a patent airway with suction where necessary.
- ▶ Watch for signs of respiratory insufficiency and assist ventilation as necessary.
- ▶ Administer oxygen by non-rebreather mask at 10 to 15 l/min.
- ▶ Monitor and treat, where necessary, for pulmonary oedema .
- ▶ Monitor and treat, where necessary, for shock.
- ▶ **DO NOT use emetics.** Where ingestion is suspected rinse mouth and give up to 200 ml water (5 ml/kg recommended) for dilution where patient is able to swallow, has a strong gag reflex and does not drool.
- ▶ Give activated charcoal.

ADVANCED TREATMENT

- ▶ Consider orotracheal or nasotracheal intubation for airway control in unconscious patient or where respiratory arrest has occurred.
- ▶ Positive-pressure ventilation using a bag-valve mask might be of use.
- ▶ Monitor and treat, where necessary, for arrhythmias.
- ▶ Start an IV D5W TKO. If signs of hypovolaemia are present use lactated Ringers solution. Fluid overload might create complications.
- ▶ Drug therapy should be considered for pulmonary oedema.
- ▶ Hypotension with signs of hypovolaemia requires the cautious administration of fluids. Fluid overload might create complications.
- ▶ Treat seizures with diazepam.
- ▶ Proparacaine hydrochloride should be used to assist eye irrigation.

EMERGENCY DEPARTMENT

- ▶ Laboratory analysis of complete blood count, serum electrolytes, BUN, creatinine, glucose, urinalysis, baseline for serum aminotransferases (ALT and AST), calcium, phosphorus and magnesium, may assist in establishing a treatment regime. Other useful analyses include anion and osmolar gaps, arterial blood gases (ABGs), chest radiographs and electrocardiograph.
- ▶ Positive end-expiratory pressure (PEEP)-assisted ventilation may be required for acute parenchymal injury or adult respiratory distress syndrome.
- ▶ Consult a toxicologist as necessary.

BRONSTEIN, A.C. and CURRANCE, P.L. *EMERGENCY CARE FOR HAZARDOUS MATERIALS EXPOSURE: 2nd Ed. 1994*

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

- ▶ Alcohol stable foam.
- ▶ Dry chemical powder.

Special hazards arising from the substrate or mixture

| | |
|-----------------------------|--|
| Fire Incompatibility | ▶ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |
|-----------------------------|--|

Special protective equipment and precautions for fire-fighters

| | |
|------------------------------|---|
| Fire Fighting | <ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. |
| Fire/Explosion Hazard | <ul style="list-style-type: none"> ▶ Combustible. ▶ Slight fire hazard when exposed to heat or flame. Combustion products include: carbon dioxide (CO ₂) aldehydes nitrogen oxides (NO _x) other pyrolysis products typical of burning organic material. May emit poisonous fumes. May emit corrosive fumes. |

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

See section 12

Methods and material for containment and cleaning up

| | |
|---------------------|---|
| Minor Spills | Environmental hazard - contain spillage. Slippery when spilt. <ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. |
| Major Spills | Environmental hazard - contain spillage. Slippery when spilt. Moderate hazard. <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. |

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

SECTION 7 HANDLING AND STORAGE

Continued...

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Precautions for safe handling

| | |
|--------------------------|--|
| Safe handling | <ul style="list-style-type: none"> ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ DO NOT allow clothing wet with material to stay in contact with skin |
| Other information | <p>Consider storage under inert gas.</p> <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. |

Conditions for safe storage, including any incompatibilities

| | |
|--------------------------------|--|
| Suitable container | <ul style="list-style-type: none"> ▶ Metal can or drum ▶ Packaging as recommended by manufacturer. ▶ Check all containers are clearly labelled and free from leaks. |
| Storage incompatibility | <p>Dibasic esters:</p> <ul style="list-style-type: none"> ▶ react with strong oxidisers with risk of fire and/ or explosion ▶ are incompatible with strong acids, nitrates <p>d-Limonene:</p> <ul style="list-style-type: none"> ▶ forms unstable peroxides in storage, unless inhibited; may polymerise ▶ reacts with strong oxidisers and may explode or combust ▶ is incompatible with strong acids, including acidic clays, peroxides, halogens, vinyl chloride and iodine pentafluoride ▶ flow or agitation may generate electrostatic charges due to low conductivity ▶ Esters react with acids to liberate heat along with alcohols and acids. ▶ Strong oxidising acids may cause a vigorous reaction with esters that is sufficiently exothermic to ignite the reaction products. <p>Terpenoids and terpenes, are generally unsaturated, are thermolabile, are often volatile and may be easily oxidised or hydrolysed depending on their respective structure.</p> <p>Terpenoids are subject to autoxidation.</p> <p>-The interaction of alkenes and alkynes with nitrogen oxides and oxygen may produce explosive addition products; these may form at very low temperatures and explode on heating to higher temperatures (the addition products from 1,3-butadiene and cyclopentadiene form rapidly at -150 C and ignite or explode on warming to -35 to -15 C). These derivatives ("pseudo- nitrosites") were formerly used to characterise terpene hydrocarbons.</p> |

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|------------------------|--------------------------------------|---------------------------------|---------------------------------|---------------|---------------|
| Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances | N-methyl-2-pyrrolidone | N-Methyl-2-pyrrolidone | 100 ppm / 400 mg/m ³ | 500 mg/m ³ / 125 ppm | Not Available | Not Available |
| Canada - Ontario Occupational Exposure Limits | N-methyl-2-pyrrolidone | N-Methyl-2-pyrrolidone | 400 mg/m ³ | Not Available | Not Available | Not Available |
| Canada - Alberta Occupational Exposure Limits | d-limonene | Turpentine and selected monoterpenes | 20 ppm / 111 mg/m ³ | Not Available | Not Available | Not Available |

EMERGENCY LIMITS

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|------------------------|---|--------|--------|---------|
| N-methyl-2-pyrrolidone | Methyl 2-pyrrolidinone, 1-; (N-Methylpyrrolidone) | 30 ppm | 32 ppm | 190 ppm |
| d-limonene | Limonene, d- | 15 ppm | 67 ppm | 170 ppm |

| Ingredient | Original IDLH | Revised IDLH |
|------------------------|---------------|---------------|
| N-methyl-2-pyrrolidone | Not Available | Not Available |
| dimethyl adipate | Not Available | Not Available |
| d-limonene | Not Available | Not Available |

OCCUPATIONAL EXPOSURE BANDING

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|------------------|-----------------------------------|----------------------------------|
| dimethyl adipate | E | ≤ 0.1 ppm |

Notes:

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

Exposure controls

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| Appropriate engineering controls | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. |
| Personal protection |  |

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| Eye and face protection | <ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. |
| Skin protection | See Hand protection below |
| Hands/feet protection | <ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber For esters: <ul style="list-style-type: none"> ▶ Do NOT use natural rubber, butyl rubber, EPDM or polystyrene-containing materials. The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application. |
| Body protection | See Other protection below |
| Other protection | <ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. |

Respiratory protection

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

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- ▶ Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES**Information on basic physical and chemical properties**

| Appearance | Text | | |
|---|---------------|--|---------------|
| Physical state | Liquid | Relative density (Water = 1) | Not Available |
| Odour | Not Available | Partition coefficient n-octanol / water | Not Available |
| Odour threshold | Not Available | Auto-ignition temperature (°C) | Not Available |
| pH (as supplied) | 7-8 | Decomposition temperature | Not Available |
| Melting point / freezing point (°C) | Not Available | Viscosity (cSt) | Not Available |
| Initial boiling point and boiling range (°C) | Not Available | Molecular weight (g/mol) | Not Available |
| Flash point (°C) | Not Available | Taste | Not Available |
| Evaporation rate | Not Available | Explosive properties | Not Available |
| Flammability | Not Available | Oxidising properties | Not Available |
| Upper Explosive Limit (%) | Not Available | Surface Tension (dyn/cm or mN/m) | Not Available |
| Lower Explosive Limit (%) | Not Available | Volatile Component (%vol) | Not Available |
| Vapour pressure (kPa) | Not Available | Gas group | Not Available |
| Solubility in water | Immiscible | pH as a solution (1%) | Not Available |
| Vapour density (Air = 1) | Not Available | VOC g/L | Not Available |

SECTION 10 STABILITY AND REACTIVITY

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|---|--|
| Reactivity | See section 7 |
| Chemical stability | <ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. |
| Possibility of hazardous reactions | See section 7 |
| Conditions to avoid | See section 7 |
| Incompatible materials | See section 7 |
| Hazardous decomposition products | See section 5 |

SECTION 11 TOXICOLOGICAL INFORMATION**Information on toxicological effects**

| | |
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| Inhaled | The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other |
|----------------|--|

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| | <p>route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Inhalation of high vapour concentrations of N-methyl-2-pyrrolidone (NMP) may produce mucous membrane irritation, headache, giddiness, mental confusion and nausea. Fatalities were not recorded following inhalation of 180-200 mg/m³ for 2 hours by mice and following a 6 hour exposure to saturated vapours by rats.</p> <p>Inhalation hazard is increased at higher temperatures.</p> <p>The main effects of simple esters are irritation, stupor and insensibility. Headache, drowsiness, dizziness, coma and behavioural changes may occur.</p> <p>Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p> |
| Ingestion | <p>Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Not a likely route of entry into the body in commercial or industrial environments. The liquid may produce considerable gastrointestinal discomfort and be harmful or toxic if swallowed.</p> <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p> |
| Skin Contact | <p>Skin contact with the material may damage the health of the individual; systemic effects may result following absorption.</p> <p>Prolonged contact with N-methyl-2-pyrrolidone (NMP) reportedly causes severe irritation and dermatitis with redness, cracking, swelling, blisters and oedema. Latex gloves are not sufficiently protective.</p> <p>Open cuts, abraded or irritated skin should not be exposed to this material</p> <p>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.</p> <p>Absorption by skin may readily exceed vapour inhalation exposure. Symptoms for skin absorption are the same as for inhalation.</p> <p>The material may cause severe inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.</p> |
| Eye | <p>If applied to the eyes, this material causes severe eye damage.</p> <p>Direct contact with liquid N-methyl-2-pyrrolidone (NMP) may produce painful burning or stinging of the eyes and lids, watering and inflammation of the conjunctiva and temporary clouding of the cornea.</p> |
| Chronic | <p>Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material.</p> <p>In animal testing, N-methyl-2-pyrrolidone (NMP) has not been shown to cause cancer. There is no evidence of it being toxic to the kidney. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment.</p> <p>A number of common flavor and fragrance chemicals can form peroxides surprisingly fast in air. Antioxidants can in most cases minimize the oxidation.</p> <p>d-Limonene may cause damage to and growths in the kidney. These growths can progress to cancer.</p> <p>Peroxidisable terpenes and terpenoids should only be used when the level of peroxides is kept to the lowest practicable level, for instance by adding antioxidants at the time of production. This should be less than 10 millimoles of peroxide per litre.</p> |

| | | |
|--------------------------|---|--|
| Fiberlock Piranha 4 5740 | TOXICITY | IRRITATION |
| | Not Available | Not Available |
| N-methyl-2-pyrrolidone | TOXICITY | IRRITATION |
| | dermal (rat) LD50: 2500-5000 mg/kg ^[2] | Eye (rabbit): 100 mg - moderate |
| | Inhalation (rat) LC50: 8290.5297 mg/l/4h ^[2] | |
| dimethyl adipate | TOXICITY | IRRITATION |
| | dermal (rat) LD50: >2000 mg/kg ^[1] | Eye (rabbit): Irritant |
| | Inhalation (rat) LC50: 2.675 mg/l/1h ^[2] | Skin (human): SEVERE |
| d-limonene | TOXICITY | IRRITATION |
| | Dermal (rabbit) LD50: >5000 mg/kg ^[2] | Eye: no adverse effect observed (not irritating) ^[1] |
| | Oral (rat) LD50: >2000 mg/kg ^[1] | Skin (rabbit): 500mg/24h moderate |
| | | Skin: no adverse effect observed (not irritating) ^[1] |
| Legend: | 1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. * Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances | |

| | |
|-------------------------------|---|
| N-METHYL-2-PYRROLIDONE | Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. |
| DIMETHYL ADIPATE | <p>DBEs have very low acute oral toxicities but may be lethal at very high doses. They may irritate the eyes and damage the lining of the nose (smell organ).</p> <p>The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.</p> <p>The material may cause severe skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. Repeated exposures may produce severe ulceration.</p> |
| D-LIMONENE | <p>The following information refers to contact allergens as a group and may not be specific to this product.</p> <p>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type.</p> <p>The substance is classified by IARC as Group 3:</p> <p>NOT classifiable as to its carcinogenicity to humans.</p> <p>Evidence of carcinogenicity may be inadequate or limited in animal testing.</p> |

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| | Monomethyltin chloride, thioglycolate esters, and tall oil ester reaction product: Monomethyltin trichloride (MMTC, CAS RN: 993-16-8), monomethyltin tris[2-ethylhexylmercaptoacetate (MMT (EHTG; MMT (2-EHMA), CAS RN: 57583-34-3), monomethyltin tris[isooctylmercaptoacetate (MMT (IOTG), CAS RN: 54849-38-6) and methyltin reverse ester tallate reaction product (TERP, CAS RNs: 201687-58-3, 201687-57-2, 68442-12-6, 151436-98-5) are considered one category of compounds for mammalian studies via the oral route. The justification for this category is based on structural similarities and the demonstrated rapid conversion of all of the esters to the MMTC when placed in simulated mammalian gastric contents [0.07M HCl] under physiological conditions. Tumorigenic by RTECS criteria |
| Fiberlock Piranha 4 5740 & D-LIMONENE | Adverse reactions to fragrances in perfumes and fragranced cosmetic products include allergic contact dermatitis, irritant contact dermatitis, sensitivity to light, immediate contact reactions, and pigmented contact dermatitis. Airborne and connubial contact dermatitis occurs. Fragrance allergens act as haptens, which are small molecules that cause an immune reaction only when attached to a carrier protein. However, not all sensitizing fragrance chemicals are directly reactive, but some require previous activation. d-Limonene is readily absorbed by inhalation and swallowing. Absorption through the skin is reported to be lower than by inhalation. |
| Fiberlock Piranha 4 5740 & N-METHYL-2-PYRROLIDONE | For N-methyl-2-pyrrolidone (NMP): Acute toxicity: Animal testing shows NMP is quickly absorbed after inhalation, swallowing and administration on skin, distributed throughout the body, and eliminated mostly by hydroxylation to polar compounds, which are excreted in the urine. In animal testing NMP has a low potential for skin irritation and a moderate potential for eye irritation. |

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

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

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

| | ENDPOINT | TEST DURATION (HR) | SPECIES | VALUE | SOURCE |
|---------------------------------|---|--------------------|-------------------------------|---------------|---------------|
| Fiberlock Piranha 4 5740 | Not Available | Not Available | Not Available | Not Available | Not Available |
| N-methyl-2-pyrrolidone | LC50 | 96 | Fish | 464mg/L | 1 |
| | EC50 | 48 | Crustacea | ca.4897mg/L | 1 |
| | EC50 | 72 | Algae or other aquatic plants | >500mg/L | 2 |
| | EC0 | 24 | Crustacea | >1-mg/L | 2 |
| | NOEC | 504 | Crustacea | 12.5mg/L | 2 |
| dimethyl adipate | LC50 | 96 | Fish | 55.898mg/L | 3 |
| | EC50 | 48 | Crustacea | 72mg/L | 2 |
| | EC50 | 96 | Algae or other aquatic plants | 4.351mg/L | 3 |
| | NOEC | 72 | Algae or other aquatic plants | 12.5mg/L | 2 |
| d-limonene | LC50 | 96 | Fish | 0.199mg/L | 3 |
| | EC50 | 48 | Crustacea | 0.307mg/L | 2 |
| | EC50 | 96 | Algae or other aquatic plants | 0.212mg/L | 3 |
| | NOEC | 504 | Crustacea | 0.05mg/L | 2 |
| Legend: | Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data | | | | |

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

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

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and/or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and/or delayed, to the structure and/or functioning of natural ecosystems.

for N-methyl-2-pyrrolidone (NMP):

log Kow : -0.44-0.1

Environmental Fate:

NMP may enter the environment as emissions to the atmosphere, as the substance is volatile and widely used as a solvent, or it may be released to water as a component of municipal and industrial wastewaters. The substance is mobile in soil, and leaching from landfills is thus a possible route of contamination of groundwater.

For Terpenes such as Limonene and Isoprene:

Atmospheric Fate: Contribute to aerosol and photochemical smog formation. When terpenes are introduced to the atmosphere, may either decrease ozone concentrations when oxides of nitrogen are low or, if emissions take place in polluted air (i.e. containing high concentrations of nitrogen oxides), leads to an increase in ozone concentrations.

Substances containing unsaturated carbons are ubiquitous in indoor environments. They result from many sources (see below).

For Limonenes:

Atmospheric Fate: Due to the high volatility of limonene, the atmosphere is expected to be the major environmental sink for this chemical. The oxidation of limonene may contribute to aerosol and photochemical smog formation.

DO NOT discharge into sewer or waterways.

Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|------------------------|-------------------------|------------------|
| N-methyl-2-pyrrolidone | LOW | LOW |
| dimethyl adipate | LOW | LOW |
| d-limonene | HIGH | HIGH |

Bioaccumulative potential

| Ingredient | Bioaccumulation |
|------------------------|------------------------|
| N-methyl-2-pyrrolidone | LOW (BCF = 0.16) |
| dimethyl adipate | LOW (LogKOW = 1.03) |
| d-limonene | HIGH (LogKOW = 4.8275) |

Mobility in soil

| Ingredient | Mobility |
|------------------------|-------------------|
| N-methyl-2-pyrrolidone | LOW (KOC = 20.94) |
| dimethyl adipate | LOW (KOC = 10.9) |
| d-limonene | LOW (KOC = 1324) |

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

| | |
|------------------------------|---|
| Product / Packaging disposal | <ul style="list-style-type: none"> ▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area.</p> <ul style="list-style-type: none"> ▶ DO NOT allow wash water from cleaning or process equipment to enter drains. ▶ It may be necessary to collect all wash water for treatment before disposal. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. |
|------------------------------|---|

SECTION 14 TRANSPORT INFORMATION

Labels Required

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

Land transport (TDG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

Not Applicable

SECTION 15 REGULATORY INFORMATION

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

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

N-METHYL-2-PYRROLIDONE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Fiberlock Piranha 4 5740

Canada - Ontario Occupational Exposure Limits
 Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances
 Canada Categorization decisions for all DSL substances
 Canada Domestic Substances List (DSL)
 Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS (English)

Chemical Footprint Project - Chemicals of High Concern List
 GESAMP/EHS Composite List - GESAMP Hazard Profiles
 IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk

DIMETHYL ADIPATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Canada Categorization decisions for all DSL substances
 Canada Domestic Substances List (DSL)
 GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO

D-LIMONENE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Canada - Alberta Occupational Exposure Limits
 Canada Categorization decisions for all DSL substances
 Canada Domestic Substances List (DSL)
 Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS (English)
 Canada Transport Dangerous Goods - Schedule 1
 Canada Transport Dangerous Goods - Schedule 3
 GESAMP/EHS Composite List - GESAMP Hazard Profiles

IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
 International Air Transport Association (IATA) Dangerous Goods Regulations
 International Maritime Dangerous Goods Requirements (IMDG Code)
 United Nations Recommendations on the Transport of Dangerous Goods Model Regulations

National Inventory Status

| National Inventory | Status |
|-------------------------------|--|
| Australia - AICS | Yes |
| Canada - DSL | Yes |
| Canada - NDSL | No (d-limonene; N-methyl-2-pyrrolidone; dimethyl adipate) |
| China - IECSC | Yes |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | Yes |
| Korea - KECI | Yes |
| New Zealand - NZIoC | Yes |
| Philippines - PICCS | Yes |
| USA - TSCA | Yes |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | No (dimethyl adipate) |
| Vietnam - NCI | Yes |
| Russia - ARIPS | Yes |
| Legend: | Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets) |

SECTION 16 OTHER INFORMATION

| | |
|----------------------|------------|
| Revision Date | 01/22/2020 |
| Initial Date | 05/01/2017 |

CONTACT POINT

PLEASE NOTE THAT TITANIUM DIOXIDE IS NOT PRESENT IN CLEAR OR NEUTRAL BASES

SDS Version Summary

| Version | Issue Date | Sections Updated |
|-----------|------------|---|
| 4.6.1.1.1 | 01/22/2020 | Acute Health (eye), Acute Health (inhaled), Acute Health (skin), Acute Health (swallowed), Chronic Health, Classification, Engineering Control, Environmental, Fire Fighter (extinguishing media), First Aid (eye), First Aid (inhaled), First Aid (swallowed), Ingredients, Personal Protection (Respirator), Personal Protection (hands/feet), Supplier Information |

Other information

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

The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings.

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level

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LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value

LOD: Limit Of Detection

OTV: Odour Threshold Value

BCF: BioConcentration Factors

BEI: Biological Exposure Index

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