

VOLKSWAGEN

GROUP OF AMERICA



Gel Wax - (Grey)

Volkswagon of America

Version No: 7.8

Safety Data Sheet according to OSHA HazCom Standard (2012) requirements

Chemwatch Hazard Alert Code: 3

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S.GHS.USA.EN

SECTION 1 IDENTIFICATION

Product Identifier

Product name	Gel Wax - (Grey)
Synonyms	P/N 128008, 123428
Other means of identification	PS 123417

Recommended use of the chemical and restrictions on use

Relevant identified uses	Automotive Wax/Polish/Sealant/Glaze
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Volkswagon of America
Address	3800 Hamlin Road Auburn Hills Michigan United States
Telephone	248-754-4944
Fax	1-248-754-4943
Website	Not Available
Email	Not Available

Emergency phone number

Association / Organisation	Volkswagon of America
Emergency telephone numbers	1-800-255-3924
Other emergency telephone numbers	Not Available

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	Eye Irritation Category 2A, Specific target organ toxicity - single exposure Category 3 (narcotic effects), Specific target organ toxicity - single exposure Category 2, Specific target organ toxicity - repeated exposure Category 2, Flammable Liquid Category 4, Acute Aquatic Hazard Category 3, Skin Corrosion/Irritation Category 2, Skin Sensitizer Category 1, Aspiration Hazard Category 1, Carcinogenicity Category 2, Chronic Aquatic Hazard Category 3
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Label elements

Hazard pictogram(s)	
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SIGNAL WORD	DANGER
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Hazard statement(s)

H319	Causes serious eye irritation.
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H336	May cause drowsiness or dizziness.
H371	May cause damage to organs. (Not specified) (Inhalation)
H373	May cause damage to organs through prolonged or repeated exposure. (Not specified) (Inhalation)
H227	Combustible liquid.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H304	May be fatal if swallowed and enters airways.
H351	Suspected of causing cancer.
H412	Harmful to aquatic life with long lasting effects.

Hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P260	Do not breathe mist/vapours/spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P281	Use personal protective equipment as required.
P270	Do not eat, drink or smoke when using this product.
P273	Avoid release to the environment.
P272	Contaminated work clothing should not be allowed out of the workplace.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P309+P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P321	Specific treatment (see advice on this label).
P331	Do NOT induce vomiting.
P362	Take off contaminated clothing and wash before reuse.
P370+P378	In case of fire: Use water spray/fog for extinction.
P302+P352	IF ON SKIN: Wash with plenty of water.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P312	Call a POISON CENTER or doctor/physician if you feel unwell.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P304+P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

Precautionary statement(s) Storage

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

Precautionary statement(s) Disposal

P501	Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation.
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SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS**Substances**

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
7732-18-5	64.47-64.7	<u>water</u>
2634-33-5	0-0.01	<u>1,2-benzisothiazoline-3-one</u>
2682-20-4	0-0.01	<u>2-methyl-4-isothiazolin-3-one</u>
7647-14-5	1	<u>sodium chloride</u>
92704-41-1	3	<u>kaolin, calcined</u>
68439-49-6	0.11-0.14	<u>alcohols C16-18 ethoxylated</u>
68920-66-1	0.05-0.14	<u>alcohols C16-18 and C18-unsaturated, ethoxylated</u>
52-51-7	<0.01	<u>2-bromo-2-nitropropan-1,3-diol</u>

Continued...

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26172-55-4	<0.01	<u>5-chloro-2-methyl-4-isothiazolin-3-one</u>
8015-86-9	1.35	<u>carnauba wax</u>
8052-41-3	20	<u>Stoddard Solvent</u>
63148-62-9	4.6-5	<u>polydimethylsiloxane</u>
69430-37-1	0.9-1	<u>aminoalkoxydimethylpolysiloxane</u>
67-56-1	0.01-0.05	<u>methanol</u>
541-02-6	0.01-0.05	<u>decamethylcyclopentasiloxane</u>
556-67-2	0-0.01	<u>octamethylcyclotetrasiloxane</u>
6197-30-4	>0.2	<u>octocrylene</u>
120-51-4	0.21	<u>benzyl benzoate</u>
54464-57-2	0.01	<u>2-acetyl-1,2,3,4,6,7,8-octahydrotetramethylnaphthalene</u>
91-64-5	0.01	<u>coumarin</u>
80-26-2	0.01	<u>terpinyl acetate</u>
1222-05-5	<0.01	<u>galaxolide</u>
32210-23-4	<0.01	<u>4-tert-butylcyclohexyl acetate</u>
98-01-1	<0.01	<u>furfural</u>
105-87-3	<0.01	<u>geranyl acetate</u>
8023-95-8	<0.01	<u>Helichrysum splendium oil</u>
Not Available	0.7	<u>Organoclay</u>
67-63-0	0.3	<u>isopropanol</u>
68155-20-4	1.8-2	<u>tall oil fatty acids diethanolamide</u>
111-42-2	0-0.02	<u>diethanolamine</u>
Not Available	0.033	<u>CHROMATINT JET BLACK 1990</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"> ▶ Wash out immediately with fresh 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. ▶ Seek medical attention without delay; if pain persists or recurs seek medical attention. ▶ 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. <p>For thermal burns:</p> <ul style="list-style-type: none"> ▶ Decontaminate area around burn. ▶ Consider the use of cold packs and topical antibiotics. <p>For first-degree burns (affecting top layer of skin)</p> <ul style="list-style-type: none"> ▶ Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides. ▶ Use compresses if running water is not available. ▶ Cover with sterile non-adhesive bandage or clean cloth. ▶ Do NOT apply butter or ointments; this may cause infection. ▶ Give over-the counter pain relievers if pain increases or swelling, redness, fever occur. <p>For second-degree burns (affecting top two layers of skin)</p> <ul style="list-style-type: none"> ▶ Cool the burn by immerse in cold running water for 10-15 minutes. ▶ Use compresses if running water is not available. ▶ Do NOT apply ice as this may lower body temperature and cause further damage. ▶ Do NOT break blisters or apply butter or ointments; this may cause infection. ▶ Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape. <p>To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort):</p> <ul style="list-style-type: none"> ▶ Lay the person flat. ▶ Elevate feet about 12 inches. ▶ Elevate burn area above heart level, if possible. ▶ Cover the person with coat or blanket. ▶ Seek medical assistance. <p>For third-degree burns</p> <p>Seek immediate medical or emergency assistance.</p> <p>In the mean time:</p> <ul style="list-style-type: none"> ▶ Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound. ▶ Separate burned toes and fingers with dry, sterile dressings. ▶ Do not soak burn in water or apply ointments or butter; this may cause infection. ▶ To prevent shock see above. ▶ For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway. ▶ Have a person with a facial burn sit up. ▶ Check pulse and breathing to monitor for shock until emergency help arrives.
Inhalation	<ul style="list-style-type: none"> ▶ If fumes, aerosols or combustion products are inhaled remove from contaminated area. ▶ Other measures are usually unnecessary.

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Ingestion

- ▶ Immediately give a glass of water.
- ▶ First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.
- ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Most important symptoms and effects, both acute and delayed

See Section 11

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.

For petroleum distillates

- In case of ingestion, gastric lavage with activated charcoal can be used promptly to prevent absorption - decontamination (induced emesis or lavage) is controversial and should be considered on the merits of each individual case; of course the usual precautions of an endotracheal tube should be considered prior to lavage, to prevent aspiration.
- Individuals intoxicated by petroleum distillates should be hospitalized immediately, with acute and continuing attention to neurologic and cardiopulmonary function.
- Positive pressure ventilation may be necessary.
- Acute central nervous system signs and symptoms may result from large ingestions of aspiration-induced hypoxia.
- After the initial episode, individuals should be followed for changes in blood variables and the delayed appearance of pulmonary oedema and chemical pneumonitis. Such patients should be followed for several days or weeks for delayed effects, including bone marrow toxicity, hepatic and renal impairment. Individuals with chronic pulmonary disease will be more seriously impaired, and recovery from inhalation exposure may be complicated.
- Gastrointestinal symptoms are usually minor and pathological changes of the liver and kidneys are reported to be uncommon in acute intoxications.
- Chlorinated and non-chlorinated hydrocarbons may sensitize the heart to epinephrine and other circulating catecholamines so that arrhythmias may occur. Careful consideration of this potential adverse effect should precede administration of epinephrine or other cardiac stimulants and the selection of bronchodilators.

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For acute and short term repeated exposures to methanol:

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

[Ellenhorn Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

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

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

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

SECTION 5 FIRE-FIGHTING MEASURES**Extinguishing media**

The product contains a substantial proportion of water, therefore there are no restrictions on the type of extinguishing media which may be used. Choice of extinguishing media should take into account surrounding areas.

Though the material is non-combustible, evaporation of water from the mixture, caused by the heat of nearby fire, may produce floating layers of combustible substances.

In such an event consider:

- ▶ foam.
- ▶ dry chemical powder.
- ▶ carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility

None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ Wear full body protective clothing with breathing apparatus.
- ▶ Prevent, by any means available, spillage from entering drains or water course.
- ▶ Use water delivered as a fine spray to control fire and cool adjacent area.
- ▶ Avoid spraying water onto liquid pools.
- ▶ **DO NOT** approach containers suspected to be hot.
- ▶ Cool fire exposed containers with water spray from a protected location.
- ▶ If safe to do so, remove containers from path of fire.

Fire/Explosion Hazard

- ▶ Combustible.
- ▶ Slight fire hazard when exposed to heat or flame.
- ▶ Heating may cause expansion or decomposition leading to violent rupture of containers.
- ▶ On combustion, may emit toxic fumes of carbon monoxide (CO).
- ▶ May emit acrid smoke.
- ▶ Mists containing combustible materials may be explosive.

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Combustion products include:
 carbon dioxide (CO₂)
 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	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▶ Remove all ignition sources. ▶ Clean up all spills immediately. ▶ Avoid breathing vapours and contact with skin and eyes. ▶ Control personal contact with the substance, by using protective equipment. ▶ Contain and absorb spill with sand, earth, inert material or vermiculite. ▶ Wipe up. ▶ Place in a suitable, labelled container for waste disposal.
Major Spills	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▶ Absorb or contain isothiazolinone liquid spills with sand, earth, inert material or vermiculite. ▶ The absorbent (and surface soil to a depth sufficient to remove all of the biocide) should be shovelled into a drum and treated with an 11% solution of sodium metabisulfite (Na₂S₂O₅) or sodium bisulfite (NaHSO₃), or 12% sodium sulfite (Na₂SO₃) and 8% hydrochloric acid (HCl). ▶ Glutathione has also been used to inactivate the isothiazolinones. ▶ Use 20 volumes of decontaminating solution for each volume of biocide, and let containers stand for at least 30 minutes to deactivate microbicide before disposal. ▶ If contamination of drains or waterways occurs, advise emergency services. ▶ After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	<p>The conductivity of this material may make it a static accumulator., A liquid is typically considered nonconductive if its conductivity is below 100 pS/m and is considered semi-conductive if its conductivity is below 10 000 pS/m., Whether a liquid is nonconductive or semi-conductive, the precautions are the same., A number of factors, for example liquid temperature, presence of contaminants, and anti-static additives can greatly influence the conductivity of a liquid.</p> <ul style="list-style-type: none"> ▶ Containers, even those that have been emptied, may contain explosive vapours. ▶ Do NOT cut, drill, grind, weld or perform similar operations on or near containers. ▶ Avoid all personal contact, including inhalation. ▶ Wear protective clothing when risk of exposure occurs. ▶ Use in a well-ventilated area. ▶ Prevent concentration in hollows and sumps. ▶ DO NOT enter confined spaces until atmosphere has been checked. ▶ DO NOT allow material to contact humans, exposed food or food utensils. ▶ Avoid contact with incompatible materials. ▶ When handling, DO NOT eat, drink or smoke. ▶ Keep containers securely sealed when not in use. ▶ Avoid physical damage to containers. ▶ Always wash hands with soap and water after handling. ▶ Work clothes should be laundered separately. Launder contaminated clothing before re-use. ▶ Use good occupational work practice. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS. ▶ Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. ▶ DO NOT allow clothing wet with material to stay in contact with skin
Other information	<p>Storage of furfural (syn: 2-furaldehyde) in air for extended periods is not recommended because polymer formation, darkening of colour and increases in acidity can occur. Storage under an inert gas such as nitrogen is recommended.</p> <p>Violent polymerisation can occur upon contact with strong mineral acids, alkalis or at elevated temperatures.</p> <ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ No smoking, naked lights or ignition sources. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers. ▶ Protect containers against physical damage and check regularly for leaks. ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

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.
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Storage incompatibility

Traces of benzene, a carcinogen, may form when silicones are heated in air above 230 degrees C. Concentrated acids and bases cause degradation of polymer. Boiling water may soften and weaken material.

For furfural:

- ▶ Strong acids or bases may cause polymerisation.
- ▶ Reacts violently with strong acids, alkalis, sodium bicarbonate.
- ▶ Incompatible with ammonia, aliphatic amines, alkanolamines, aromatic amines.
- ▶ Attacks many plastics, coatings.

Formaldehyde:

- ▶ is a strong reducing agent
- ▶ may polymerise in air unless properly inhibited (usually with methanol up to 15%) and stored at controlled temperatures
- ▶ will polymerize with active organic material such as phenol
- ▶ reacts violently with strong oxidisers, hydrogen peroxide, potassium permanganate, acrylonitrile, caustics (sodium hydroxide, yielding formic acid and flammable hydrogen), magnesium carbonate, nitromethane, nitrogen oxides (especially at elevated temperatures), peroxyformic acid
- ▶ is incompatible with strong acids (hydrochloric acid forms carcinogenic bis(chloromethyl)ether*), amines, ammonia, aniline, bisulfides, gelatin, iodine, magnesite, phenol, some monomers, tannins, salts of copper, iron, silver.
- ▶ acid catalysis can produce impurities: methylal, methyl formate

Aqueous solutions of formaldehyde:

- ▶ slowly oxidise in air to produce formic acid
- ▶ attack carbon steel

Concentrated solutions containing formaldehyde are:

- ▶ unstable, both oxidising slowly to form formic acid and polymerising; in dilute aqueous solutions formaldehyde appears as monomeric hydrate (methylene glycol) - the more concentrated the solution the more polyoxymethylene glycol occurs as oligomers and polymers (methanol and amine-containing compounds inhibit polymer formation)
- ▶ readily subject to polymerisation, at room temperature, in the presence of air and moisture, to form paraformaldehyde (8-100 units of formaldehyde), a solid mixture of linear polyoxymethylene glycols containing 90-99% formaldehyde; a cyclic trimer, trioxane (CH₂O₃), may also form

Flammable and/or toxic gases are generated by the combination of aldehydes with azo, diazo compounds, dithiocarbamates, nitrides, and strong reducing agents

*The empirical equation may be used to determine the concentration of bis(chloromethyl)ether (BCME) formed by reaction with HCl:

$$\log(\text{BCME})_{\text{ppb}} = -2.25 + 0.67 \cdot \log(\text{HCHO})_{\text{ppm}} + 0.77 \cdot \log(\text{HCl})_{\text{ppm}}$$

Assume values for formaldehyde, in air, of 1 ppm and for HCl of 5 ppm, resulting BCME concentration, in air, would be 0.02 ppb.

None known

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z3	sodium chloride	Inert or Nuisance Dust	15 mg/m ³ / 50 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.); Total dust))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	sodium chloride	Inert or Nuisance Dust	5 mg/m ³ / 15 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.); Respirable fraction))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	kaolin, calcined	Inert or Nuisance Dust	15 mg/m ³ / 50 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.); Total dust))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	kaolin, calcined	Inert or Nuisance Dust	5 mg/m ³ / 15 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.); Respirable fraction))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	2-bromo-2-nitropropan-1,3-diol	Inert or Nuisance Dust	5 mg/m ³ / 15 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates

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						Not Otherwise Regulated (PNOR) limit in Table Z-1.; Respirable fraction))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	2-bromo-2-nitropropan-1,3-diol	Inert or Nuisance Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.; Total dust))
US NIOSH Recommended Exposure Limits (RELs)	Stoddard Solvent	Dry cleaning safety solvent, Mineral spirits, Petroleum solvent, Spotting naphtha [Note: A refined petroleum solvent with a flash point of 102-110°F, boiling point of 309-396°F, and containing >65% C10 or higher hydrocarbons.]	350 mg/m3	Not Available	1800 mg/m3	[15-minute]
US ACGIH Threshold Limit Values (TLV)	Stoddard Solvent	Stoddard solvent	100 ppm	Not Available	Not Available	TLV® Basis: Eye, skin, & kidney dam; nausea; CNS impair
US OSHA Permissible Exposure Levels (PELs) - Table Z1	Stoddard Solvent	Stoddard solvent	500 ppm / 2900 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	methanol	Carbinol, Columbian spirits, Methanol, Pyroligneous spirit, Wood alcohol, Wood naphtha, Wood spirit	200 ppm / 260 mg/m3	325 mg/m3 / 250 ppm	Not Available	[skin]
US ACGIH Threshold Limit Values (TLV)	methanol	Methanol	200 ppm	250 ppm	Not Available	TLV® Basis: Headache; eye dam; dizziness; nausea; BEI
US OSHA Permissible Exposure Levels (PELs) - Table Z1	methanol	Methyl alcohol	200 ppm / 260 mg/m3	Not Available	Not Available	Not Available
US OSHA Permissible Exposure Levels (PELs) - Table Z3	coumarin	Inert or Nuisance Dust	5 mg/m3 / 15 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.; Respirable fraction))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	coumarin	Inert or Nuisance Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.; Total dust))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	galaxolide	Inert or Nuisance Dust	15 mg/m3 / 50 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.; Total dust))
US OSHA Permissible Exposure Levels (PELs) - Table Z3	galaxolide	Inert or Nuisance Dust	5 mg/m3 / 15 mppcf	Not Available	Not Available	(Name ((d) All inert or nuisance dusts, whether mineral, inorganic, or organic, not listed specifically by substance name are covered by this limit, which is the same as the Particulates Not Otherwise Regulated (PNOR) limit in Table Z-1.; Respirable fraction))
US NIOSH Recommended Exposure Limits (RELs)	furfural	Fural, 2-Furancarboxaldehyde, Furfuraldehyde, 2-Furfuraldehyde	Not Available	Not Available	Not Available	See Appendix D
US ACGIH Threshold Limit Values (TLV)	furfural	* Furfural	0.2 ppm	Not Available	Not Available	TLV® Basis: URT & eye irr; BEI
US OSHA Permissible Exposure Levels (PELs) - Table Z1	furfural	Furfural	5 ppm / 20 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	isopropanol	Dimethyl carbinol, IPA, Isopropanol, 2-Propanol, sec-Propyl alcohol, Rubbing alcohol	400 ppm / 980 mg/m3	1225 mg/m3 / 500 ppm	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	isopropanol	2-Propanol	200 ppm	400 ppm	Not Available	TLV® Basis: Eye & URT irr; CNS impair; BEI

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US OSHA Permissible Exposure Levels (PELs) - Table Z1	isopropanol	Isopropyl alcohol	400 ppm / 980 mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	diethanolamine	DEA; Di(2-hydroxyethyl)amine; 2,2'-Dihydroxydiethylamine; Diolamine; bis(2-Hydroxyethyl)amine; 2,2'-Iminodiethanol	3 ppm / 15 mg/m3	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	diethanolamine	Diethanolamine	1 mg/m3	Not Available	Not Available	TLV® Basis: Liver & kidney dam

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
sodium chloride	Chloride; (Chloride(1-); Chloride ions)	0.5 ppm	2 ppm	20 ppm
alcohols C16-18 ethoxylated	Ethoxylated alcohols, C16-18; (Nonionic surfactant)	3.8 mg/m3	42 mg/m3	250 mg/m3
5-chloro-2-methyl-4-isothiazolin-3-one	Chloro-2-methyl-4-isothiazolin-3-one, 5-	0.6 mg/m3	6.6 mg/m3	40 mg/m3
Stoddard Solvent	Stoddard solvent; (Mineral spirits, 85% nonane and 15% trimethyl benzene)	300 mg/m3	1,800 mg/m3	29500 mg/m3
polydimethylsiloxane	Dimethyl siloxane; (Dimethylpolysiloxane; Syltherm XLT; Syltherm 800; Silicone 360)	65 mg/m3	720 mg/m3	4,300 mg/m3
methanol	Methyl alcohol; (Methanol)	Not Available	Not Available	Not Available
decamethylcyclotetrasiloxane	Decamethylcyclotetrasiloxane	4.8 ppm	53 ppm	320 ppm
octamethylcyclotetrasiloxane	Octamethylcyclotetrasiloxane	30 ppm	68 ppm	130 ppm
benzyl benzoate	Benzyl benzoate	5.7 mg/m3	63 mg/m3	380 mg/m3
coumarin	Coumarin	0.88 mg/m3	9.7 mg/m3	58 mg/m3
furfural	Furancarboxaldehyde, 2-; (Furfural)	Not Available	Not Available	Not Available
isopropanol	Isopropyl alcohol	400 ppm	2000 ppm	12000 ppm
diethanolamine	Diethanolamine	3 mg/m3	28 mg/m3	130 mg/m3

Ingredient	Original IDLH	Revised IDLH
water	Not Available	Not Available
1,2-benzisothiazoline-3-one	Not Available	Not Available
2-methyl-4-isothiazolin-3-one	Not Available	Not Available
sodium chloride	Not Available	Not Available
kaolin, calcined	Not Available	Not Available
alcohols C16-18 ethoxylated	Not Available	Not Available
alcohols C16-18 and C18-unsaturated, ethoxylated	Not Available	Not Available
2-bromo-2-nitropropan-1,3-diol	Not Available	Not Available
5-chloro-2-methyl-4-isothiazolin-3-one	Not Available	Not Available
carnauba wax	Not Available	Not Available
Stoddard Solvent	20,000 mg/m3	Not Available
polydimethylsiloxane	Not Available	Not Available
aminoalkoxydimethylpolysiloxane	Not Available	Not Available
methanol	6,000 ppm	Not Available
decamethylcyclotetrasiloxane	Not Available	Not Available
octamethylcyclotetrasiloxane	Not Available	Not Available
octocrylene	Not Available	Not Available
benzyl benzoate	Not Available	Not Available
2-acetyl-1,2,3,4,6,7,8-octahydrotetramethylnaphthalene	Not Available	Not Available
coumarin	Not Available	Not Available
terpinyl acetate	Not Available	Not Available
galaxolide	Not Available	Not Available
4-tert-butylcyclohexyl acetate	Not Available	Not Available
furfural	100 ppm	Not Available
geranyl acetate	Not Available	Not Available
Helichrysum splendendum oil	Not Available	Not Available
Organoclay	Not Available	Not Available
isopropanol	2,000 ppm	Not Available
tall oil fatty acids diethanolamide	Not Available	Not Available
diethanolamine	Not Available	Not Available
CHROMATINT JET BLACK 1990	Not Available	Not Available


OCCUPATIONAL EXPOSURE BANDING

Gel Wax - (Grey)

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
1,2-benzisothiazoline-3-one	E	≤ 0.01 mg/m ³
2-methyl-4-isothiazolin-3-one	D	> 0.01 to ≤ 0.1 mg/m ³
alcohols C16-18 ethoxylated	E	≤ 0.1 ppm
5-chloro-2-methyl-4-isothiazolin-3-one	D	> 0.01 to ≤ 0.1 mg/m ³
aminoalkoxydimethylpolysiloxane	E	≤ 0.1 ppm
decamethylcyclopentasiloxane	E	≤ 0.1 ppm
octamethylcyclotetrasiloxane	E	≤ 0.1 ppm
octocrylene	E	≤ 0.1 ppm
benzyl benzoate	E	≤ 0.1 ppm
2-acetyl-1,2,3,4,6,7,8-octahydrotetramethylnaphthalene	E	≤ 0.1 ppm
terpinyl acetate	E	≤ 0.1 ppm
4-tert-butylcyclohexyl acetate	E	≤ 0.1 ppm
geranyl acetate	E	≤ 0.1 ppm
Helichrysum splendendum oil	D	> 0.1 to ≤ 1 ppm
tall oil fatty acids diethanolamide	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

Appropriate engineering controls	<p>Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are:</p> <p>Process controls which involve changing the way a job activity or process is done to reduce the risk.</p> <p>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.</p> <p>Employers may need to use multiple types of controls to prevent employee overexposure.</p> <p>Local exhaust ventilation usually required. If risk of overexposure exists, wear approved respirator. Correct fit is essential to obtain adequate protection. Supplied-air type respirator may be required in special circumstances. Correct fit is essential to ensure adequate protection. An approved self contained breathing apparatus (SCBA) may be required in some situations.</p> <p>Provide adequate ventilation in warehouse or closed storage area. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.</p> <table border="1"> <thead> <tr> <th>Type of Contaminant:</th> <th>Air Speed:</th> </tr> </thead> <tbody> <tr> <td>solvent, vapours, degreasing etc., evaporating from tank (in still air).</td> <td>0.25-0.5 m/s (50-100 f/min.)</td> </tr> <tr> <td>aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)</td> <td>0.5-1 m/s (100-200 f/min.)</td> </tr> <tr> <td>direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)</td> <td>1-2.5 m/s (200-500 f/min.)</td> </tr> <tr> <td>grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).</td> <td>2.5-10 m/s (500-2000 f/min.)</td> </tr> </tbody> </table> <p>Within each range the appropriate value depends on:</p> <table border="1"> <thead> <tr> <th>Lower end of the range</th> <th>Upper end of the range</th> </tr> </thead> <tbody> <tr> <td>1: Room air currents minimal or favourable to capture</td> <td>1: Disturbing room air currents</td> </tr> <tr> <td>2: Contaminants of low toxicity or of nuisance value only.</td> <td>2: Contaminants of high toxicity</td> </tr> <tr> <td>3: Intermittent, low production.</td> <td>3: High production, heavy use</td> </tr> <tr> <td>4: Large hood or large air mass in motion</td> <td>4: Small hood-local control only</td> </tr> </tbody> </table> <p>Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.</p>	Type of Contaminant:	Air Speed:	solvent, vapours, degreasing etc., evaporating from tank (in still air).	0.25-0.5 m/s (50-100 f/min.)	aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)	direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min.)	grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)	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Personal protection																					
Eye and face protection	<ul style="list-style-type: none"> ▶ Safety glasses with side shields. ▶ Chemical goggles. ▶ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and 																				

Gel Wax - (Grey)

	remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]
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 <p>NOTE:</p> <ul style="list-style-type: none"> ▶ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact. ▶ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed. <p>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.</p> <p>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.</p> <p>Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <p>Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:</p> <ul style="list-style-type: none"> • frequency and duration of contact, • chemical resistance of glove material, • glove thickness and • dexterity <p>Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).</p> <ul style="list-style-type: none"> • When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. • When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended. • Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use. • Contaminated gloves should be replaced. <p>As defined in ASTM F-739-96 in any application, gloves are rated as:</p> <ul style="list-style-type: none"> • Excellent when breakthrough time > 480 min • Good when breakthrough time > 20 min • Fair when breakthrough time < 20 min • Poor when glove material degrades <p>For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.</p> <p>It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.</p> <p>Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.</p> <p>Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:</p> <ul style="list-style-type: none"> • Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. • Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential <p>Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.</p> <ul style="list-style-type: none"> ▶ Butyl rubber gloves ▶ Nitrile rubber gloves
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Overalls. ▶ P.V.C. apron. ▶ Barrier cream. ▶ Skin cleansing cream. ▶ Eye wash unit.

Recommended material(s)

GLOVE SELECTION INDEX

Glove selection is based on a modified presentation of the:

"Forsberg Clothing Performance Index".

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

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Material	CPI
BUTYL	C
BUTYL/NEOPRENE	C
NAT+NEOPR+NITRILE	C
NATURAL RUBBER	C
NATURAL+NEOPRENE	C
NEOPRENE	C
NEOPRENE/NATURAL	C
NITRILE	C
NITRILE+PVC	C
PE/EVAL/PE	C
PVA	C

Respiratory protection

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

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

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

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO₂), G = Agricultural chemicals, K = Ammonia(NH₃), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- ▶ The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or

Continued...

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PVC	C
PVDC/PE/PVDC	C
SARANEX-23	C
SARANEX-23 2-PLY	C
TEFLON	C
VITON	C
VITON/NEOPRENE	C

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

* CPI - Chemwatch Performance Index

A: Best Selection

B: Satisfactory; may degrade after 4 hours continuous immersion

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

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

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

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Grey polish		
Physical state	Liquid	Relative density (Water = 1)	0.95 - 0.98
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	>18000
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	71.1	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Combustible.	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)	>90
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Miscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur. ▶ Silicone fluids are stable under normal storage conditions. ▶ Hazardous polymerisation will not occur. ▶ At temperatures > 150 C, silicones can slowly react with the oxygen in air. ▶ When heated > 300 C, silicones can slowly depolymerise to volatile siloxanes whether or not air is present.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
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Gel Wax - (Grey)

	<p>Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, loss of reflexes, lack of co-ordination, and vertigo.</p> <p>Furfural vapours irritate the nose and throat. Low levels cause headache, throat itching and eye irritation. High concentrations may cause nausea, vomiting, unconsciousness and death. Other effects for inhaling furfural are as for swallowing.</p> <p>In humans, about 78% was retained by the lungs during 8 hours of inhalation of the vapour.</p> <p>Not normally a hazard due to non-volatile nature of product</p> <p>Inhaling high concentrations of mixed hydrocarbons can cause narcosis, with nausea, vomiting and lightheadedness. Low molecular weight (C2-C12) hydrocarbons can irritate mucous membranes and cause incoordination, giddiness, nausea, vertigo, confusion, headache, appetite loss, drowsiness, tremors and stupor.</p> <p>Central nervous system (CNS) depression may include general discomfort, symptoms of giddiness, headache, dizziness, nausea, anaesthetic effects, slowed reaction time, slurred speech and may progress to unconsciousness. Serious poisonings may result in respiratory depression and may be fatal.</p> <p>Inhalation of high concentrations of gas/vapour causes lung irritation with coughing and nausea, central nervous depression with headache and dizziness, slowing of reflexes, fatigue and inco-ordination.</p> <p>Exposure to white spirit may cause nausea and vertigo.</p>
Ingestion	<p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p> <p>Swallowing furfural (2-furaldehyde) may cause numbness of the tongue and mucous membranes of the mouth, loss of taste sense, difficulty in breathing, nausea, vomiting and severe headache. As little as 0.06 gram, if swallowed or otherwise absorbed, will cause severe headache.</p> <p>The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.</p> <p>Taken by mouth, isothiazolinones have moderate to high toxicity. The major signs of toxicity are severe stomach irritation, lethargy, and inco-ordination.</p> <p>Ingestion of petroleum hydrocarbons can irritate the pharynx, oesophagus, stomach and small intestine, and cause swellings and ulcers of the mucous. Symptoms include a burning mouth and throat; larger amounts can cause nausea and vomiting, narcosis, weakness, dizziness, slow and shallow breathing, abdominal swelling, unconsciousness and convulsions.</p> <p>Swallowing 10 millilitres of isopropanol may cause serious injury; 100 millilitres may be fatal if not properly treated. The adult single lethal dose is approximately 250 millilitres. Isopropanol is twice as poisonous as ethanol, and the effects caused are similar, except that isopropanol does not cause an initial feeling of well-being. Swallowing may cause nausea, vomiting and diarrhea; vomiting and stomach inflammation is more prominent with isopropanol than with ethanol. Animals given near-lethal doses also showed inco-ordination, lethargy, inactivity and loss of consciousness.</p> <p>There is evidence that a slight tolerance to isopropanol may be acquired.</p>
Skin Contact	<p>This material can cause inflammation of the skin on contact in some persons.</p> <p>The material may accentuate any pre-existing dermatitis condition</p> <p>A 0.5% solution of 1,2-benzisothiazoline-3-one (BIT) is irritating to the skin. Even 0.05% can cause allergy, according to patch tests, with reddening of the skin.</p> <p>Provocation tests with BIT showed the material to be sensitizing. Of 20 metal workers with skin inflammation, four were shown to have been sensitized to BIT in cutting oils. Cases of contact eczema in workers producing polyacrylate emulsions for paints and wax polish, in which BIT was the preservative, have been described. Similar findings have been described in the paper-making industry, in the rubber industry, in the control laboratory of a chemical plant and among workers producing ceramic moulds where BIT was added to the mould oil.</p> <p>Solutions of isothiazolinones may be irritating or even damaging to the skin, depending on concentration. A concentration of over 0.1% can irritate, and over 0.5% can cause severe irritation.</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>The liquid may be able to be mixed with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.</p> <p>511ipa</p>
Eye	<p>This material can cause eye irritation and damage in some persons.</p> <p>Solutions containing isothiazolinones may damage the mucous membranes and cornea. Animal testing showed very low concentrations (under 0.1%) did not cause irritation, while higher levels (3-5.5%) produced severe irritation and damage to the eye.</p> <p>Direct eye contact with petroleum hydrocarbons can be painful, and the corneal epithelium may be temporarily damaged. Aromatic species can cause irritation and excessive tear secretion.</p> <p>Isopropanol vapour may cause mild eye irritation at 400 parts per million. Splashes may cause severe eye irritation, possible burns to the cornea and eye damage. Eye contact may cause tearing and blurring of vision.</p>
Chronic	<p>There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.</p> <p>Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.</p> <p>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.</p> <p>Chronic effects of furfural include eczema, allergic sensitisation and photosensitisation in certain individuals.</p> <p>Repeated or prolonged skin contact may stain the skin yellow brown. Chronic airway or skin diseases are aggravated by long term exposure.</p> <p>In animal testing, 1,2-benzisothiazoline-3-one (BIT) did not cause toxicity to the embryo or birth defects. The material does not cause mutations or an increase in cancer. Mild anaemia, reduction in food intake and changes in organ weights did occur in a long-term study.</p> <p>The isothiazolinones are known contact sensitizers. Sensitisation is more likely with the chlorinated species as opposed to the non-chlorinated species.</p> <p>Constant or exposure over long periods to mixed hydrocarbons may produce stupor with dizziness, weakness and visual disturbance, weight loss and anaemia, and reduced liver and kidney function. Skin exposure may result in drying and cracking and redness of the skin.</p> <p>Immersion of the hands and forearms in white spirits may quickly result in inflammation of the skin and follicles. Workers exposed to white spirit have reported nausea and vomiting and one worker has been reported to develop aplastic anaemia, bone marrow depression and this person later died from septicaemia.</p> <p>Long-term exposure to methanol vapour, at concentrations exceeding 3000 ppm, may produce cumulative effects characterised by gastrointestinal disturbances (nausea, vomiting), headache, ringing in the ears, insomnia, trembling, unsteady gait, vertigo, conjunctivitis and clouded or double vision. Liver and/or kidney injury may also result.</p> <p>Long term, or repeated exposure of isopropanol may cause inco-ordination and tiredness.</p> <p>Repeated inhalation exposure to isopropanol may produce sleepiness, inco-ordination and liver degeneration. Animal data show developmental effects only at exposure levels that produce toxic effects in adult animals. Isopropanol does not cause genetic damage.</p> <p>There are inconclusive reports of human sensitisation from skin contacts with isopropanol. Chronic alcoholics are more tolerant of the whole-body effects of isopropanol.</p> <p>Animal testing showed the chronic exposure did not produce reproductive effects.</p> <p>NOTE: Commercial isopropanol does not contain "isopropyl oil", which caused an excess incidence of sinus and throat cancers in isopropanol production workers in the past. "Isopropyl oil" is no longer formed during production of isopropanol.</p> <p>Prolonged or repeated skin contact may cause drying with cracking, irritation and possible dermatitis following.</p>

Gel Wax - (Grey)

Gel Wax - (Grey)	TOXICITY	IRRITATION
	Not Available	Not Available
water	TOXICITY	IRRITATION
	Oral (rat) LD50: >90000 mg/kg ^[2]	Not Available
1,2-benzisothiazoline-3-one	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1] Oral (rat) LD50: 454 mg/kg ^[1]	Eye: adverse effect observed (irreversible damage) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
2-methyl-4-isothiazolin-3-one	TOXICITY	IRRITATION
	dermal (rat) LD50: 242 mg/kg ^[1] Oral (rat) LD50: 120 mg/kg ^[1]	Eye: adverse effect observed (irreversible damage) ^[1] Skin: adverse effect observed (corrosive) ^[1]
sodium chloride	TOXICITY	IRRITATION
	Oral (rat) LD50: 3000 mg/kg ^[2]	Eye (rabbit): 10 mg - moderate Eye (rabbit): 100 mg/24h - moderate Skin (rabbit): 500 mg/24h - mild
kaolin, calcined	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg ^[1] Oral (rat) LD50: >2000 mg/kg ^[1]	Not Available
alcohols C16-18 ethoxylated	TOXICITY	IRRITATION
	Oral (rat) LD50: 1260 mg/kg ^[2]	Eye : Severe (analogy) * Skin: not irritating * (analogy) *
alcohols C16-18 and C18-unsaturated, ethoxylated	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >3000 mg/kg ^[1] Oral (rat) LD50: >2000 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1] Skin: adverse effect observed (irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
2-bromo-2-nitropropan-1,3-diol	TOXICITY	IRRITATION
	dermal (rat) LD50: 64 mg/kg ^[2] Inhalation (rat) LC50: 0.8 mg/l/4H ^[2] Oral (rat) LD50: 180 mg/kg ^[2]	Eye (rabbit): 5 mg Skin (human): 10 mg moderate Skin (rabbit): 500 mg/24h mild Skin (rabbit): 80 mg moderate
5-chloro-2-methyl-4-isothiazolin-3-one	TOXICITY	IRRITATION
	dermal (rat) LD50: >1008 mg/kg ^[2] Oral (rat) LD50: 481 mg/kg ^[2]	Eye: adverse effect observed (irreversible damage) ^[1] Skin: adverse effect observed (corrosive) ^[1] Skin: adverse effect observed (irritating) ^[1]
carnauba wax	TOXICITY	IRRITATION
	Not Available	Not Available
Stoddard Solvent	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >3000 mg/kg ^[1] Inhalation (rat) LC50: >2796.8052 mg/l/8H ^[2] Oral (rat) LD50: >5000 mg/kg ^[1]	Eye (hmn) 470 ppm/15m irrit. Eye (rabbit) 500 mg/24h moderate Eye: no adverse effect observed (not irritating) ^[1] Skin: adverse effect observed (irritating) ^[1] Skin: no adverse effect observed (not irritating) ^[1]
polydimethylsiloxane	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[2] Oral (rat) LD50: >17000 mg/kg ^[2]	Eye (rabbit): 100 mg/1h - mild
aminoalkoxydimethylpolysiloxane	TOXICITY	IRRITATION
	Not Available	Eye : Moderate * Skin : Moderate *

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methanol	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 15800 mg/kg ^[2]	Eye (rabbit): 100 mg/24h-moderate
	Inhalation (rat) LC50: 36208.63875 mg/l/1H ^[2]	Eye (rabbit): 40 mg-moderate
	Oral (rat) LD50: =5300 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
		Skin (rabbit): 20 mg/24 h-moderate
		Skin: no adverse effect observed (not irritating) ^[1]
decamethylcyclopentasiloxane	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >15248 mg/kg ^[2]	Eye (rabbit): 500 mg/24h - mild
	Inhalation (rat) LC50: 8.67 mg/l/4h ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (rat) LD50: >5000 mg/kg ^[1]	Skin (rabbit): 500 mg/24h - mild
		Skin: adverse effect observed (irritating) ^[1]
		Skin: no adverse effect observed (not irritating) ^[1]
octamethylcyclotetrasiloxane	TOXICITY	IRRITATION
	dermal (rat) LD50: 1770 mg/kg ^[2]	Eye (rabbit): 500 mg/24h - mild
	Inhalation (rat) LC50: 36 mg/l/4Hd ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (rat) LD50: 1540 mg/kg ^[2]	Skin (rabbit): 500 mg/24h - mild
		Skin: adverse effect observed (irritating) ^[1]
		Skin: no adverse effect observed (not irritating) ^[1]
octocrylene	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye : Not irritating
	Oral (rat) LD50: >5000 mg/kg ^[1]	Skin : Not irritating
benzyl benzoate	TOXICITY	IRRITATION
	dermal (rat) LD50: 4000 mg/kg ^[2]	Not Available
	Oral (rat) LD50: 500 mg/kg ^[2]	
2-acetyl-1,2,3,4,6,7,8-octahydrotetramethylnaphthalene	TOXICITY	IRRITATION
	Not Available	Not Available
coumarin	TOXICITY	IRRITATION
	Oral (rat) LD50: ~290 mg/kg ^[1]	Not Available
terpinyl acetate	TOXICITY	IRRITATION
	Oral (rat) LD50: 5075 mg/kg ^[2]	Not Available
galaxolide	TOXICITY	IRRITATION
	dermal (rat) LD50: >5000 mg/kg ^[2]	Skin (rabbit): 500 mg/24h - mod
	Oral (rat) LD50: >3250 mg/kg ^[2]	
4-tert-butylcyclohexyl acetate	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >5000 mg/kg ^[2]	Skin (rabbit): 500 mg/24h mod
	Inhalation (rat) LC50: >9.6 mg/l/8H ^[2]	
	Oral (rat) LD50: >300-2000 mg/kg ^[1]	
furfural	TOXICITY	IRRITATION
	dermal (rat) LD50: 192.39 mg/kg ^[1]	Eye (rabbit): 100 mg/24h moderate
	Inhalation (rat) LC50: 6.1 mg/l/2H ^[2]	Eye: adverse effect observed (irritating) ^[1]
	Oral (rat) LD50: 65 mg/kg ^[2]	Skin (rabbit): 20 mg/24h moderate
		Skin: adverse effect observed (irritating) ^[1]
geranyl acetate	TOXICITY	IRRITATION
	>2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (rat) LD50: 6330 mg/kg ^[2]	Skin (guinea pig):100mg/24h mod
		Skin (man): 16 mg/48h - mild
		Skin (rabbit): 100 mg/24h-SEVERE
		Skin: adverse effect observed (irritating) ^[1]

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		Skin: no adverse effect observed (not irritating) ^[1]
Helichrysum splendium oil	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >5000 mg/kg ^[2]	Not Available
	Oral (rat) LD50: 4400 mg/kg ^[2]	
Organoclay	TOXICITY	IRRITATION
	Not Available	Not Available
isopropanol	TOXICITY	IRRITATION
	dermal (rat) LD50: =12800 mg/kg ^[2]	Eye (rabbit): 10 mg - moderate
	Inhalation (rat) LC50: 72.6 mg/l/4h ^[2]	Eye (rabbit): 100 mg - SEVERE
	Oral (rat) LD50: =4396 mg/kg ^[2]	Eye (rabbit): 100mg/24hr-moderate
		Skin (rabbit): 500 mg - mild
tall oil fatty acids diethanolamide	TOXICITY	IRRITATION
	Not Available	Not Available
diethanolamine	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 8342.88 mg/kg ^[2]	Eye (rabbit): 5500 mg - SEVERE
	Oral (rat) LD50: 677.04 mg/kg ^[2]	Eye (rabbit): 0.75 mg/24 hr SEVERE
		Eye: adverse effect observed (irritating) ^[1]
		Skin (rabbit): 50 mg (open)-mild
		Skin (rabbit): 500 mg/24 hr-mild
		Skin: adverse effect observed (irritating) ^[1]
CHROMATINT JET BLACK 1990	TOXICITY	IRRITATION
	Not Available	Not Available
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	

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1,2-BENZISOTHIAZOLINE-3-ONE	<p>Acute toxicity data show that 1,2-benzisothiazoline-3-one (BIT) is moderately toxic by the oral and dermal routes but that this chemical is a severe eye irritant. Irritation to the skin from acute data show only mild skin irritation, but repeated dermal application indicated a more significant skin irritation response.</p> <p>The neurotoxicity observed in the rat acute oral toxicity study (piloerection and upward curvature of the spine at 300 mg/kg and above; decreased activity, prostration, decreased abdominal muscle tone, reduced righting reflex, and decreased rate and depth of breathing at 900 mg/kg) and the acute dermal toxicity study (upward curvature of the spine was observed in increased incidence, but this was absent after day 5 post-dose at a dose of 2000 mg/kg) were felt to be at exposures in excess of those expected from the use pattern of this pesticide and that such effects would not be observed at estimated exposure doses.</p> <p>Subchronic oral toxicity studies showed systemic effects after repeated oral administration including decreased body weight, increased incidence of forestomach hyperplasia, and non-glandular stomach lesions in rats. In dogs, the effects occurred at lower doses than in rats, and included alterations in blood chemistry (decreased plasma albumin, total protein, and alanine aminotransferase) and increased absolute liver weight.</p> <p>Developmental toxicity studies were conducted in rats with maternal effects including decreased body weight gain, decreased food consumption, and clinical toxicity signs (audible breathing, haircoat staining of the anogenital region, dry brown material around the nasal area) as well as increased mortality. Developmental effects consisted of increases in skeletal abnormalities (extra sites of ossification of skull bones, unossified sternbrae) but not external or visceral abnormalities.</p> <p>Reproductive toxicity: In a two-generation reproduction study, parental toxicity was observed at 500 ppm and was characterized by lesions in the stomach. In pups, toxic effects were reported at 1000 ppm and consisted of preputial separation in males and impaired growth and survival in both sexes. The reproduction study did not show evidence of increased susceptibility of offspring.</p>
2-METHYL-4-ISOTHIAZOLIN-3-ONE	Considered to be a minor sensitiser in Kathon CG (1)
SODIUM CHLORIDE	The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
ALCOHOLS C16-18 ETHOXYLATED	Remarks: Patch test on human volunteers did not demonstrate sensitization properties. * Cognis MSDS for Ceteraeth -20 The skin sensitising potential was assessed with C16-18AE (CAS 68439-49-6) in a Buehler Test according to OECD Guideline 406. In this study 20 female guinea pigs were induced by an epicutaneous occlusive dressing with 100% test substance (in maize oil) for 6 h on Day 0, 7 and 14. Two weeks after the last induction animals were challenged by epicutaneous occlusive exposure for 6 h to 100% test substance (in maize oil). 24 and 48 h after patch removal the application site was assessed for signs of local irritation. No dermal reactions were observed in any test animal at any time point. Available oral toxicity studies provide a coherent picture on the subchronic and chronic oral toxicity of AE. Based on the described effects and argumentations, the dietary NOAEL of 500 mg/kg bw/day (Shell, 1982) representing an average of all NOAELs, was chosen for the risk assessment. The clastogenic potential was assessed in a chromosomal aberration test with C16-18AE (CAS 68439-49-6) in mammalian cells according to

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	<p>OECD Guideline 473. Chinese hamster ovary cells (CHO) were exposed to 313, 625, 1250, 2500 and 5000 µg/mL in the presence and 1.25, 2.5, 5, 10, 20, 39 and 78 µg/mL in the absence of metabolic activation. Positive and vehicle (1% ethanol) control cultures were included in each assay. No increases in the number of chromosome aberrations in the presence or absence of metabolic activation were seen at any concentration tested. Appropriate reference mutagens used as positive controls showed a significant increase in chromosome aberrations, thus indicating the sensitivity of the assay, and the efficacy of the S9-mix. Hence, the test substance can not be regarded as clastogenic. The mutagenic potential in mammalian cells was assessed with C16-18AE (CAS 68439-49-6) by a HPRT-assay according to OECD Guideline 476. Following pre-tests with the concentration ranging from 1-100 µg/mL, the latter being the solubility limit of the test substance, Chinese hamster ovary cells were exposed for 4 h to concentrations of 1.8, 6, 18, 60 and 100 µg/mL in the absence and presence of metabolic activation by rat liver S9-mix. No dose-related increases in mutant colony numbers were obtained in two independent experiments with the test substance in either the presence or absence of S9-mix. Appropriate reference mutagens used as positive controls produced highly significant increases in mutation frequency, thus indicating the sensitivity of the assay. Therefore, the test substance is regarded as not mutagenic in mammalian cells. In conclusion, C16AE (CAS 52609-19-5) is regarded as non-genotoxic a reproductive toxicity study on a structurally similar material, C14-15AE7 (CAS 68951-67-7) was conducted at dietary levels of 25, 50 and 250 mg/kg bw/day. The 2-generation study (Procter and Gamble Ltd., 1977: Long term reproduction and teratology study in rats with Neodol 45-7; unpublished report) did not show any potential for reproductive toxicity at the tested dose levels. The NOAEL for reproductive effects was greater than the highest tested dose of 250 mg/kg bw/day. Although the study was pre-GLP and not in full compliance with current OECD guidelines, the study provided sufficient information and was assessed to be scientifically reliable. The comparable toxicokinetic and metabolic profiles, as well as their toxicological similarities for this and other toxicological endpoints, support the conclusion that insights from the reproductive toxicity study on higher ethoxylated AE are applicable to AE with an ethoxylation degree of 1 - 2.5. * REACh Dossier</p>
ALCOHOLS C16-18 AND C18-UNSATURATED, ETHOXYLATED	as Oleth-5
2-BROMO-2-NITROPROPAN-1,3-DIOL	Chemical with the aliphatic nitro group (-C-NO ₂) have been added to a list of DNA-reactive subgroups recognised by the National Toxicological Program (NTP, U.S. Dept Health and Human Services) for possible carcinogenic activity.
5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE	Considered to be the major sensitiser in Kathon CG (1)
STODDARD SOLVENT	<p>For petroleum: This product contains benzene, which can cause acute myeloid leukaemia, and n-hexane, which can be metabolized to compounds which are toxic to the nervous system. This product contains toluene, and animal studies suggest high concentrations of toluene lead to hearing loss. This product contains ethyl benzene and naphthalene, from which animal testing shows evidence of tumour formation.</p> <p>Cancer-causing potential: Animal testing shows inhaling petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans.</p> <p>Mutation-causing potential: Most studies involving gasoline have returned negative results regarding the potential to cause mutations, including all recent studies in living human subjects (such as in petrol service station attendants).</p> <p>Reproductive toxicity: Animal studies show that high concentrations of toluene (>0.1%) can cause developmental effects such as lower birth weight and developmental toxicity to the nervous system of the foetus. Other studies show no adverse effects on the foetus.</p> <p>Human effects: Prolonged or repeated contact may cause defatting of the skin which can lead to skin inflammation and may make the skin more susceptible to irritation and penetration by other materials.</p> <p>Animal testing shows that exposure to gasoline over a lifetime can cause kidney cancer, but the relevance in humans is questionable.</p>
POLYDIMETHYLSILOXANE	No toxic response noted during 90 day subchronic inhalation toxicity studies The no observable effect level is 450 mg/m ³ . Non-irritating and non-sensitising in human patch test. [Xerox]*
AMINOALKOXYDIMETHYLPOLYSILOXANE	* Xiameter OFX-0536 SDS
DECAMETHYLCYCLOPENTASILOXANE	<p>Liver changes, spleen changes recorded. Carcinogenicity: Animal testing showed no carcinogenic effects. Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES) Result: negative Remarks: Based on test data Genotoxicity in vivo: Test Type: Unscheduled DNA synthesis (UDS) test with mammalian liver cells in vivo Species: Rat Application Route: inhalation (vapor) Result: negative Remarks: Based on test data Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effect. Effects on fertility : Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Inhalation Symptoms: No effects on fertility. Remarks: Based on test data Effects on fetal development : Test Type: Two-generation reproduction toxicity study Species: Rat Application Route: Inhalation Symptoms: No effects on fetal development. Remarks: Based on test data Reproductive toxicity - Assessment : No evidence of adverse effects on sexual function and fertility, or on development, based on animal experiments Routes of exposure: Assessment: No significant health effects observed in animals at concentrations of 200 mg/kg bw or less. Results from a 2 year repeated vapour inhalation exposure study to rats of decamethylcyclopentasiloxane (D5) indicate effects (uterine endometrial tumours) in female animals. This finding occurred at the highest exposure dose (160 ppm) only. Studies to date have not demonstrated if this effect occurs through a pathway that is relevant to humans</p>
OCTAMETHYLCYCLOTETRAILOXANE	<p>Does not cause skin sensitization Genotoxicity in vitro : Test Type: Bacterial reverse mutation assay (AMES) Result: negative Remarks: Based on test data Test Type: Mutagenicity (in vitro mammalian cytogenetic test) Result: negative Remarks: Based on test data Test Type: Chromosome aberration test in vitro Result: negative Remarks: Based on test data Test Type: In vitro sister chromatid exchange assay in mammalian cells Result: negative Remarks: Based on test data Test Type: DNA damage and repair, unscheduled DNA synthesis in mammalian cells (in vitro) Result: negative Remarks: Based on test data Genotoxicity in vivo : Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Rat Application Route: inhalation (vapor) Result: negative Remarks: Based on test data Test Type: Rodent dominant lethal test (germ cell) (in vivo) Species: Rat Application Route: Ingestion Result: negative Remarks: Based on test data Germ cell mutagenicity - Assessment : Animal testing did not show any mutagenic effects Effects on fertility : Test Type: Two-generation reproduction toxicity study Species: Rat, male and female Application Route: inhalation (vapor) Symptoms: Effects on fertility. Remarks: Based on test data Effects on fetal development : Test Type: Prenatal development toxicity study (teratogenicity) Species: Rabbit Application Route: inhalation (vapor) Symptoms: No effects on fetal development. Remarks: Based on test data Reproductive toxicity - Assessment : Some evidence of adverse effects on sexual function and fertility, based on animal experiments. STOT-single exposure May cause damage to organs (Eyes, Central nervous system Routes of exposure: Skin contact Assessment: No significant health effects observed in animals at concentrations of 200 mg/kg bw or less. Results from a 2 year repeated vapor inhalation exposure study to rats of octamethylcyclotetrasiloxane (D4) indicate effects (benign uterine adenomas) in the uterus of female animals. This finding occurred at the highest exposure dose (700 ppm) only. Studies to date have not demonstrated if these effects occur through pathways that are relevant to humans. Repeated exposure in rats to D4 resulted in protoporphyrin accumulation in the liver. Without knowledge of the specific mechanism leading to the protoporphyrin accumulation the relevance of this finding to humans is unknown</p>
OCTOCRYLENE	<p>Where no "official" classification for acrylates and methacrylates exists, there have been cautious attempts to create classifications in the absence of contrary evidence. For example Monoalkyl or monoarylestere of acrylic acids should be classified as R36/37/38 and R51/53 Monoalkyl or monoaryl estere of methacrylic acid should be classified as R36/37/38 Based on the available oncogenicity data and without a better understanding of the carcinogenic mechanism the Health and Environmental Review Division (HERD), Office of Toxic Substances (OTS), of the US EPA previously concluded that all chemicals</p>

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	<p>that contain the acrylate or methacrylate moiety ($\text{CH}_2=\text{CHCOO}$ or $\text{CH}_2=\text{C}(\text{CH}_3)\text{COO}$) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing.</p> <p>This position has now been revised and acrylates and methacrylates are no longer <i>de facto</i> carcinogens.</p> <p>No mutagenic and teratogenic properties * Esperis MSDS</p>
BENZYL BENZOATE	<p>For certain benzyl derivatives: The members of this group are rapidly absorbed through the gastrointestinal tract, metabolised primarily in the liver, and excreted primarily in the urine either unchanged or as conjugates of benzoic acid derivatives. At high dose levels, gut micro-organisms may act to produce minor amounts of breakdown products. However, no adverse effects have been reported even at repeated high doses. Similarly, no effects were observed on reproduction, foetal development and tumour potential.</p> <p>This is a member or analogue of a group of benzyl derivatives generally regarded as safe (GRAS), based partly on their self-limiting properties as flavouring substances in food. In humans and other animals, they are rapidly absorbed, broken down and excreted, with a wide safety margin. They also lack significant potential to cause genetic toxicity and mutations. The intake of benzyl derivatives as natural components of traditional foods is actually higher than the intake as intentionally added flavouring substances.</p>
2-ACETYL-1,2,3,4,6,7,8-OCTAHYDROTETRAMETHYLNAPHTHALENE	<p>The substance is an individual isomer of the fragrance ingredient OTNE [predominant isomer: 1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one; synonyms - tetramethylacetyloctahydronaphthalene, Iso-E Super; other isomers: 1-(1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-naphthyl)ethan-1-one, and 1,2,3,4,5,6,7,8-octahydro-2,3,8,8-tetramethyl-2-acetonaphthalenone].</p> <p>A synthetic terpenoid considered to be a petroleum-derived aroma chemical</p> <p>No data were available regarding chemical disposition, metabolism, or toxicokinetics; acute, short term, subchronic, or chronic toxicity; synergistic or antagonistic activity; reproductive or teratological effects; carcinogenicity; genotoxicity; or immunotoxicity of OTNE</p> <p>Several compounds were considered as structural analogues of OTNE. Data are provided for the tetralin derivatives AHTN (CAS RN: 21145-77-7; Tonalide, 1-(5,6,7,8-tetrahydro-3,5,5,6,8,8 hexamethyl-2-naphthalenyl)ethanone) and AETT, (*CAS RN: 88-29-9; Versalide, 1-(3-ethyl-5,6,7,8-tetrahydro-5,5,8,8 tetramethyl-2-naphthalenyl)ethanone) which are also polycyclic synthetic musks. Both compounds have been detected in human adipose tissue and human milk. In one rat study, AHTN produced acute hepatic damage but in another had no adverse effects when administered to lactating rats beginning the third week of pregnancy at doses producing levels in the milk ~1000 times those reported in human milk.</p> <p>Administered by gavage at 50 mg/kg/day on gestation days 7 through 17, AHTN produced clinical signs and reduced weight gain and feed consumption in dams but had no adverse effect on embryo-fetal viability, growth, or morphology. In female rats, AETT induced classic degenerative changes in the liver and effects on the nucleolus and was neurotoxic. Effects included demyelination, hyperirritability, limb weakness, and gait abnormality that became severe ataxia.</p> <p>AHTN gave negative results in several genotoxicity studies (e.g., the Salmonella typhimurium/<i>Escherichia coli</i> plate incorporation and liquid preincubation assays and in vivo mouse micronucleus assays)</p> <p>Human Data is available ISO-E super (CAS RN: 54464-57-2): In dermatological patients, two cases of an allergic reaction towards Iso-E Super were observed on day 3 or 4 of application (patch test); however, this was not proved to be clinically relevant.</p> <p>Chronic exposure may result in permanent hypersensitivity] In a study with female mice, Iso E Super was positive in the local lymph node assay (LLNA) and irritancy assay (IRR), but negative in the mouse ear swelling test (MEST).</p> <p>The alkyl cyclic ketone (ACK) fragrance ingredients are a diverse group of structures with similar metabolic and toxicity profiles. ACK fragrance materials have low acute toxicity. Repeated exposure causes some adverse effects in biochemical tests and blood cell counts. They are not considered to be irritating to the skin of humans. In animals, mild to moderate eye irritation was seen; however, full recovery usually occurred. Human studies showed that ACK fragrance ingredients have low potential for sensitization. Phototoxicity and photosensitization were not demonstrated in humans. Developmental toxicity occurred only when toxicity also appeared in the mother. Tests showed that this group of substances did not cause genetic toxicity.</p>
TERPINYL ACETATE	<p>A member or analogue of a group of aliphatic and alicyclic terpenoid tertiary alcohols and structurally related substances generally regarded as safe.</p> <p>Animal testing suggests that the acute toxicity of tertiary alcohols and related esters is extremely low.</p> <p>Genetic toxicity: Tests on bacterial and animal cells showed no evidence of genetic toxicity or potential to cause mutations.</p> <p>For terpenoid tertiary alcohols and their related esters: These substances are metabolised in the liver and excreted primarily in the urine and faeces. A portion is also excreted unchanged. They have low short term toxicity when ingested or applied on the skin. However, repeated and long term use may cause dose dependent harm to both the foetus and mother.</p>
GALAXOLIDE	<p>There is increasing evidence emerging that some nitromusks and polycyclic musks, including those commonly used in perfumes, may be capable (either as parent compounds or as metabolites) of interfering with hormone communication systems in fish, amphibians and mammals, and may exacerbate the effects of exposure to other toxic chemicals.</p> <p>Changes in liver weight, maternal effects, foetotoxicity reported.</p>
4-TERT-BUTYLCYCLOHEXYL ACETATE	<p>There are no safety concerns regarding cyclic acetates under the present declared levels of use, for the reasons outlined below. Cyclic acetates have low acute toxicity. Cyclic acetates and cyclic alcohols also have low whole-body toxicity, after repeated application to skin. At concentrations encountered in current use, minimal, if any, skin irritation occurs. These substances have little or no sensitizing potential. Available data does not indicate that these substances cause genetic toxicity or mutations, so they are unlikely to cause cancer. They have a very wide safety margin.</p>
FURFURAL	<p>551furfural Carcinogenic by RTECS criteria (oral mouse liver tumors) Substance has been investigated as a mutagen; Human sister chromatid exchange in lymphocytes observed at 70 micromol/litre</p>
GERANYL ACETATE	<p>Citronellol, geraniol, nerol, and geranyl acetate are currently generally regarded as safe by the US FDA for their intended use as flavouring substances. They are ubiquitous in the plant kingdom. Terpenoid alcohol, formed in the gastrointestinal tract, as a result of hydrolysis, is rapidly absorbed, metabolised and excreted via the urine. It has no repeat dose effect, no genetic and cancer causing effect but may harm the unborn child of a pregnant woman.</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>
HELICHRYSUM SPLENDIDUM OIL	<p>Epoxidation of double bonds is a common bioactivation pathway for alkenes. The allylic epoxides formed were found to be sensitizing. Research has shown that conjugated dienes in or in conjunction with a six-membered ring are prohapten, while related dienes containing isolated double bonds or an acrylic conjugated diene were weak or non-sensitising.</p>
ISOPROPANOL	<p>Isopropanol is irritating to the eyes, nose and throat but generally not to the skin. Prolonged high dose exposure may also produce depression of the central nervous system and drowsiness. Few have reported skin irritation. It can be absorbed from the skin or when inhaled. Intentional swallowing is common particularly among alcoholics or suicide victims and also leads to fainting, breathing difficulty, nausea, vomiting and headache. In the absence of unconsciousness, recovery usually occurred. Repeated doses may damage the kidneys. A decrease in the frequency of mating has been found in among animals, and newborns have been found to have a greater incidence of low birth weight. Tumours of the testes have been observed in the male rat.</p>
TALL OIL FATTY ACIDS DIETHANOLAMIDE	<p>Laboratory testing shows that the fatty acid amide, cocoamide DEA, causes occupational allergic contact dermatitis, and that allergy to this substance is becoming more common.</p> <p>Alkanolamides are manufactured by condensation of diethanolamine and the methyl ester of long chain fatty acids.</p> <p>The chemicals in the Fatty Nitrogen Derived (FND) Amides are generally similar in terms of physical and chemical properties,</p>

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	<p>environmental fate and toxicity. Its low acute oral toxicity is well established across all subcategories by the available data and show no apparent organ specific toxicity, mutation, reproductive or developmental defects.</p> <p>Overexposure to most of these materials may cause adverse health effects.</p> <p>Many amine-based compounds can cause release of histamines, which, in turn, can trigger allergic and other physiological effects, including constriction of the bronchi or asthma and inflammation of the cavity of the nose. Whole-body symptoms include headache, nausea, faintness, anxiety, a decrease in blood pressure, rapid heartbeat, itching, reddening of the skin, urticaria (hives) and swelling of the face, which are usually transient.</p> <p>There are generally four routes of possible or potential exposure: inhalation, skin contact, eye contact, and swallowing.</p> <p>Inhalation: Inhaling vapours may result in moderate to severe irritation of the tissues of the nose and throat and can irritate the lungs. Higher concentrations of certain amines can produce severe respiratory irritation, characterized by discharge from the nose, coughing, difficulty in breathing and chest pain. Chronic exposure via inhalation may cause headache, nausea, vomiting, drowsiness, sore throat, inflammation of the bronchi and lungs, and possible lung damage. Repeated and/or prolonged exposure to some amines may result in liver disorders, jaundice and liver enlargement. Some amines have been shown to cause kidney, blood and central nervous system disorders in animal studies.</p> <p>While most polyurethane amine catalysts are not sensitizers, some certain individuals may also become sensitized to amines and my experience distress while breathing, including asthma-like attacks, whenever they are subsequently exposed to even very small amounts of vapours. Once sensitized, these individuals must avoid any further exposure to amines. Chronic overexposure may lead to permanent lung injury, including reduction in lung function, breathlessness, chronic inflammation of the bronchi, and immunologic lung disease.</p> <p>Products with higher vapour pressures may reach higher concentrations in the air, and this increases the likelihood of worker exposure.</p> <p>Inhalation hazards are increased when exposure to amine catalysts occurs in situations that produce aerosols, mists or heated vapours. Such situations include leaks in fitting or transfer lines. Medical conditions generally aggravated by inhalation exposure include asthma, bronchitis and emphysema.</p> <p>Skin contact: Skin contact with amine catalysts poses a number of concerns. Direct skin contact can cause moderate to severe irritation and injury, from simple redness and swelling to painful blistering, ulceration, and chemical burns. Repeated or prolonged exposure may also result in severe cumulative skin inflammation. Skin contact with some amines may result in allergic sensitization. Sensitized persons should avoid all contact with amine catalysts. Whole-body effects resulting from the absorption of the amines through skin exposure may include headaches, nausea, faintness, anxiety, decrease in blood pressure, reddening of the skin, hives, and facial swelling. These symptoms may be related to the pharmacological action of the amines, and they are usually temporary.</p> <p>Eye contact: Amine catalysts are alkaline and their vapours are irritating to the eyes, even at low concentrations. Direct contact with liquid amine may cause severe irritation and tissue injury, and the "burning" may lead to blindness. Contact with solid products may result in mechanical irritation, pain and corneal injury.</p> <p>Exposed persons may experience excessive tearing, burning, inflammation of the conjunctiva, and swelling of the cornea, which manifests as a blurred or foggy vision with a blue tint, and sometimes a halo phenomenon around lights. These symptoms are temporary and usually disappear when exposure ends. Some people may experience this effect even when exposed to concentrations that do not cause respiratory irritation.</p> <p>Ingestion: Amine catalysts have moderate to severe toxicity if swallowed. Some amines can cause severe irritation, ulcers and burns of the mouth, throat, gullet and gastrointestinal tract. Material aspirated due to vomiting can damage the bronchial tubes and the lungs. Affected people may also experience pain in the chest or abdomen, nausea, bleeding of the throat and gastrointestinal tract, diarrhea, dizziness, drowsiness, thirst, collapse of circulation, coma and even death.</p> <p>WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.</p>
<p>Gel Wax - (Grey) & 1,2-BENZISOTHIAZOLINE-3-ONE & 2-METHYL-4-ISOTHIAZOLIN-3-ONE & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & BENZYL BENZOATE & 2-ACETYL-1,2,3,4,6,7,8-OCTAHYDROTETRAMETHYLNAPHTHALENE & COUMARIN & GALAXOLIDE & GERANYL ACETATE & HELICHRYSUM SPLENDIDUM OIL & TALL OIL FATTY ACIDS DIETHANOLAMIDE</p>	<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. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested.</p>
<p>Gel Wax - (Grey) & BENZYL BENZOATE & 2-ACETYL-1,2,3,4,6,7,8-OCTAHYDROTETRAMETHYLNAPHTHALENE & COUMARIN & GALAXOLIDE & GERANYL ACETATE & HELICHRYSUM SPLENDIDUM OIL</p>	<p>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 conjugal contact dermatitis occurs. Contact allergy is a lifelong condition, so symptoms may occur on re-exposure. Allergic contact dermatitis can be severe and widespread, with significant impairment of quality of life and potential consequences for fitness for work.</p> <p>If the perfume contains a sensitizing component, intolerance to perfumes by inhalation may occur. Symptoms may include general unwellness, coughing, phlegm, wheezing, chest tightness, headache, shortness of breath with exertion, acute respiratory illness, hayfever, asthma and other respiratory diseases. Perfumes can induce excess reactivity of the airway without producing allergy or airway obstruction. Breathing through a carbon filter mask had no protective effect.</p> <p>Occupational asthma caused by perfume substances, such as isoamyl acetate, limonene, cinnamaldehyde and benzaldehyde, tend to give persistent symptoms, even though the exposure is below occupational exposure limits. Prevention of contact sensitization to fragrances is an important objective of public health risk management.</p> <p>Hands: Contact sensitization may be the primary cause of hand eczema or a complication of irritant or atopic hand eczema. However hand eczema is a disease involving many factors, and the clinical significance of fragrance contact allergy in severe, chronic hand eczema may not be clear.</p> <p>Underarm: Skin inflammation of the armpits may be caused by perfume in deodorants and, if the reaction is severe, it may spread down the arms and to other areas of the body. In individuals who consulted a skin specialist, a history of such first-time symptoms was significantly related to the later diagnosis of perfume allergy.</p> <p>Face: An important manifestation of fragrance allergy from the use of cosmetic products is eczema of the face. In men, after-shave products can cause eczema around the beard area and the adjacent part of the neck. Men using wet shaving as opposed to dry have been shown to have an increased risk of allergic to fragrances.</p> <p>Irritant reactions: Some individual fragrance ingredients, such as citral, are known to be irritant. Fragrances may cause a dose-related contact urticaria (hives) which is not allergic; cinnamal, cinnamic alcohol and Myroxylon pereirae are known to cause hives, but others, including menthol, vanillin and benzaldehyde have also been reported.</p> <p>Pigmentary dermatitis: Type IV allergy is responsible for "pigmented cosmetic dermatitis", referring to increased pigmentation on the face and neck. Testing showed a number of fragrance ingredients were associated, including jasmine absolute, ylang-ylang oil, cananga oil, benzyl salicylate, hydroxycitronellal, sandalwood oil, geraniol and geranium oil.</p> <p>Light reactions: Musk ambrette produced a number of allergic reactions mediated by light and was later banned from use in Europe. Furocoumarins (psoralens) in some plant-derived fragrances have caused phototoxic reactions, with redness. There are now limits for the amount of furocoumarins in fragrances. Phototoxic reactions still occur, but are rare.</p> <p>General/respiratory: Fragrances are volatile, and therefore, in addition to skin exposure, a perfume also exposes the eyes and the nose / airway. It is estimated that 2-4% of the adult population is affected by respiratory or eye symptoms by such an exposure. It is known that exposure to fragrances may exacerbate pre-existing asthma. Asthma-like symptoms can be provoked by sensory</p>

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	<p>mechanisms. A significant association was found between respiratory complaints related to fragrances and contact allergy to fragrance ingredients and hand eczema.</p>
<p>Gel Wax - (Grey) & 2-ACETYL-1,2,3,4,6,7,8-OCTAHYDROTETRAMETHYLNAPHTHALENE & GERANYL ACETATE & HELICHRYSUM SPLENDIDUM OIL</p>	<p>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. A prohaptens is a chemical that itself causes little or no sensitization, but it is transformed into a hapten outside the skin by a chemical reaction (oxidation in air or reaction with light) without the requirement of an enzyme.</p> <p>For prohaptens, it is possible to prevent activation outside the body to a certain extent by different measures, for example, prevention of air exposure during handling and storage of the ingredients and the final product, and by the addition of suitable antioxidants. When antioxidants are used, care should be taken that they will not be activated themselves, and thereby form new sensitizers.</p> <p>Prehaptens: Most terpenes with oxidisable allylic positions can be expected to self-oxidise on air exposure. Depending on the stability of the oxidation products that are formed, the oxidized products will have differing levels of sensitization potential. Tests shows that air exposure of lavender oil increased the potential for sensitization.</p> <p>Prohaptens: Compounds that are bioactivated in the skin and thereby form haptens are referred to prohaptens. The possibility of a prohaptens being activated cannot be avoided by outside measures. Activation processes increase the risk for cross-reactivity between fragrance substances. Various enzymes play roles in both activating and deactivating prohaptens. Skin-sensitizing prohaptens can be recognized and grouped into chemical classes based on knowledge of xenobiotic bioactivation reactions, clinical observations and/or studies of sensitization.</p> <p>QSAR prediction: Prediction of sensitization activity of these substances is complex, especially for those substances that can act both as pre- and prohaptens.</p>
<p>Gel Wax - (Grey) & GERANYL ACETATE</p>	<p>Cross-reactivity is also expected between ester derivatives and their parent alcohols, as the esters will be broken down by esterases in the skin. Esters of important contact allergens that can be activated by hydrolysis in the skin are isoeugenol acetate, eugenyl acetate and geranyl acetate all of which are known to be used as fragrance ingredients.</p>
<p>WATER & 2-METHYL-4-ISOTHIAZOLIN-3-ONE & KAOLIN, CALCINED & ALCOHOLS C16-18 AND C18-UNSATURATED, ETHOXYLATED & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & CARNAUBA WAX & OCTOCRYLENE & 2-ACETYL-1,2,3,4,6,7,8-OCTAHYDROTETRAMETHYLNAPHTHALENE & HELICHRYSUM SPLENDIDUM OIL & TALL OIL FATTY ACIDS DIETHANOLAMIDE</p>	<p>No significant acute toxicological data identified in literature search.</p>
<p>2-METHYL-4-ISOTHIAZOLIN-3-ONE & SODIUM CHLORIDE & 2-BROMO-2-NITROPROPAN-1,3-DIOL & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & DECAMETHYLCYCLOPENTASILOXANE & OCTOCRYLENE & COUMARIN & TERPINYL ACETATE & 4-TERT-BUTYLCYCLOHEXYL ACETATE & FURFURAL & GERANYL ACETATE & ISOPROPANOL & TALL OIL FATTY ACIDS DIETHANOLAMIDE & DIETHANOLAMINE</p>	<p>Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production.</p>
<p>2-METHYL-4-ISOTHIAZOLIN-3-ONE & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE</p>	<p>Based on laboratory and animal testing, exposure to the material may result in irreversible effects and mutations in humans. In light of potential adverse effects, and to ensure a harmonised risk assessment and management, the EU regulatory framework for biocides has been established with the objective of ensuring a high level of protection of human and animal health and the environment. To this aim, it is required that risk assessment of biocidal products is carried out before they can be placed on the market. A central element in the risk assessment of the biocidal products are the utilization instructions that defines the dosage, application method and amount of applications and thus the exposure of humans and the environment to the biocidal substance. Humans may be exposed to biocidal products in different ways in both occupational and domestic settings. Many biocidal products are intended for industrial sectors or professional uses only, whereas other biocidal products are commonly available for private use by non-professional users. In addition, potential exposure of non-users of biocidal products (i.e. the general public) may occur indirectly via the environment, for example through drinking water, the food chain, as well as through atmospheric and residential exposure. Particular attention should be paid to the exposure of vulnerable sub-populations, such as the elderly, pregnant women, and children. Also pets and other domestic animals can be exposed indirectly following the application of biocidal products. Furthermore, exposure to biocides may vary in terms of route (inhalation, dermal contact, and ingestion) and pathway (food, drinking water, residential, occupational) of exposure, level, frequency and duration.</p> <p>NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.</p> <p>(1). Bruze et al - Contact Dermatitis 20: 219-39, 1989</p>
<p>2-METHYL-4-ISOTHIAZOLIN-3-ONE & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & POLYDIMETHYLSILOXANE & DECAMETHYLCYCLOPENTASILOXANE & OCTAMETHYLCYCLOTETRAILOXANE</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>2-METHYL-4-ISOTHIAZOLIN-3-ONE & SODIUM CHLORIDE & ALCOHOLS C16-18 ETHOXYLATED & ALCOHOLS C16-18 AND C18-UNSATURATED, ETHOXYLATED & 2-BROMO-2-NITROPROPAN-1,3-DIOL & 5-CHLORO-2-METHYL-4-ISOTHIAZOLIN-3-ONE & METHANOL & DECAMETHYLCYCLOPENTASILOXANE & OCTAMETHYLCYCLOTETRAILOXANE & GALAXOLIDE & 4-TERT-BUTYLCYCLOHEXYL ACETATE & FURFURAL & ISOPROPANOL & TALL OIL FATTY ACIDS DIETHANOLAMIDE & DIETHANOLAMINE</p>	<p>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.</p>
<p>2-METHYL-4-ISOTHIAZOLIN-3-ONE & 2-BROMO-2-NITROPROPAN-1,3-DIOL & 5-CHLORO-2-METHYL-</p>	<p>Formaldehyde generators (releasers) are often used as preservatives. The maximum authorised concentration of free formaldehyde is 0.2% and must be labelled with the warning sign "contains formaldehyde" where the concentration exceeds 0.05%. The use of formaldehyde-releasing preservatives ensures that the level of free formaldehyde in the products is always low</p>

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4-ISOTHIAZOLIN-3-ONE	but sufficient to inhibit microbial growth - it disrupts metabolism to cause death of the organism. However there is a concern that formaldehyde generators can produce amines capable of causing cancers (nitrosamines) when used in formulations containing amines.
ALCOHOLS C16-18 ETHOXYLATED & ALCOHOLS C16-18 AND C18-UNSATURATED, ETHOXYLATED	<p>Polyethers (such as ethoxylated surfactants and polyethylene glycols) are highly susceptible to being oxidized in the air. They then form complex mixtures of oxidation products.</p> <p>Animal testing reveals that whole the pure, non-oxidised surfactant is non-sensitizing, many of the oxidation products are sensitizers. The oxidization products also cause irritation.</p> <p>Humans have regular contact with alcohol ethoxylates through a variety of industrial and consumer products such as soaps, detergents and other cleaning products. Exposure to these chemicals can occur through swallowing, inhalation, or contact with the skin or eyes. Studies of acute toxicity show that relatively high volumes would have to occur to produce any toxic response. No death due to poisoning with alcohol ethoxylates has ever been reported. Studies show that alcohol ethoxylates have low toxicity through swallowing and skin contact.</p> <p>Animal studies show these chemicals may produce gastrointestinal irritation, stomach ulcers, hair standing up, diarrhea and lethargy. Slight to severe irritation occurred when undiluted alcohol ethoxylates were applied to the skin and eyes of animals. These chemicals show no indication of genetic toxicity or potential to cause mutations and cancers. Toxicity is thought to be substantially lower than that of nonylphenol ethoxylates.</p> <p>Some of the oxidation products of this group of substances may have sensitizing properties.</p> <p>As they cause less irritation, nonionic surfactants are often preferred to ionic surfactants in topical products. However, their tendency to auto-oxidise also increases their irritation. Due to their irritating effect it is difficult to diagnose allergic contact dermatitis (ACD) by patch testing.</p> <p>Both laboratory and animal testing has shown that there is no evidence for alcohol ethoxylates (AEs) causing genetic damage, mutations or cancer. No adverse reproductive or developmental effects were observed.</p> <p>Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma. Death may result in experimental animal. However, repeated exposure may cause dose dependent damage to the kidneys as well as reproductive and developmental defects.</p>
ALCOHOLS C16-18 ETHOXYLATED & TALL OIL FATTY ACIDS DIETHANOLAMIDE	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.
POLYDIMETHYLSILOXANE & AMINOALKOXYDIMETHYLPOLYSILOXANE	Siloxanes may impair liver and hormonal function, as well as the lung and kidney. They have not been found to be irritating to the skin and eyes. They may potentially cause cancer (tumours of the womb in females) and may cause impaired fertility or infertility.
DECAMETHYLCYCLOPENTASILOXANE & OCTAMETHYLCYCLOTETRAILOXANE	Routes of exposure: Ingestion Assessment: No significant health effects observed in animals at concentrations of 100 mg/kg bw or less. Routes of exposure: inhalation (vapor) Assessment: No significant health effects observed in animals at concentrations of 1 mg/l/6h/d or less.
BENZYL BENZOATE & COUMARIN & GALAXOLIDE	<p>Fragrance allergens act as haptens, low molecular weight chemicals that cause an immune response only when attached to a carrier protein. However, not all sensitizing fragrance chemicals are directly reactive, but require previous activation. A prohaptens is a chemical that itself causes little or no sensitization, but is transformed into a hapten in the skin (bioactivation), usually via enzyme catalysis. It is not always possible to know whether a particular allergen that is not directly reactive acts as a prohaptens or a prohaptens , or both.</p> <p>Prohaptens: Compounds that are bioactivated in the skin and thereby form haptens are referred to prohaptens. The possibility of a prohaptens being activated cannot be avoided by outside measures. Activation processes increase the risk for cross-reactivity between fragrance substances. Various enzymes play roles in both activating and deactivating prohaptens. Skin-sensitizing prohaptens can be recognized and grouped into chemical classes based on knowledge of xenobiotic bioactivation reactions, clinical observations and/or studies of sensitization.</p> <p>QSAR prediction: Prediction of sensitization activity of these substances is complex, especially for those substances that can act both as pre- and prohaptens.</p>
COUMARIN & ISOPROPANOL	The substance is classified by IARC as Group 3: NOT classifiable as to its carcinogenicity to humans. Evidence of carcinogenicity may be inadequate or limited in animal testing.
TALL OIL FATTY ACIDS DIETHANOLAMIDE & DIETHANOLAMINE	DEA has low acute toxicity if ingested orally or applied on the skin. It can cause moderate skin irritation and severe eye irritation. It may affect sperm production, cause anaemia and damage the liver and kidney. It has not been shown to cause cancer in humans; though there is evidence that it may cause cancer in mice, and damage to the foetus at levels toxic to the mother.

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

Gel Wax - (Grey)	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
water	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	897.520mg/L	3
	EC50	96	Algae or other aquatic plants	8768.874mg/L	3
1,2-benzisothiazoline-3-one	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.6mg/L	4
	EC50	48	Crustacea	0.062mg/L	4

Continued...

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	EC50	72	Algae or other aquatic plants	0.0403mg/L	2
	NOEC	72	Algae or other aquatic plants	0.055mg/L	2
2-methyl-4-isothiazolin-3-one	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.07mg/L	4
	EC50	48	Crustacea	0.18mg/L	4
	EC50	72	Algae or other aquatic plants	0.05mg/L	4
	EC10	72	Algae or other aquatic plants	0.0346mg/L	2
	NOEC	96	Algae or other aquatic plants	0.01mg/L	2
sodium chloride	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	5-840mg/L	2
	EC50	48	Crustacea	402.6mg/L	4
	EC50	96	Algae or other aquatic plants	2430mg/L	4
	NOEC	6	Fish	0.001mg/L	4
kaolin, calcined	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>100mg/L	2
	EC50	48	Crustacea	>100mg/L	2
	EC50	72	Algae or other aquatic plants	2-500mg/L	2
	EC10	72	Algae or other aquatic plants	33mg/L	2
	NOEC	504	Crustacea	1-mg/L	2
alcohols C16-18 ethoxylated	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
alcohols C16-18 and C18-unsaturated, ethoxylated	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	108mg/L	2
	EC50	48	Crustacea	51mg/L	2
	EC50	72	Algae or other aquatic plants	>10mg/L	2
	EC20	72	Algae or other aquatic plants	0.054mg/L	2
	NOEC	240	Fish	0.16mg/L	2
2-bromo-2-nitropropan-1,3-diol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	20mg/L	4
	EC50	48	Crustacea	0.78mg/L	4
	EC50	72	Algae or other aquatic plants	0.25mg/L	2
	NOEC	72	Algae or other aquatic plants	0.08mg/L	2
5-chloro-2-methyl-4-isothiazolin-3-one	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.19mg/L	4
	EC50	48	Crustacea	0.028mg/L	4
	EC50	72	Algae or other aquatic plants	0.021mg/L	4
	NOEC	504	Crustacea	0.172mg/L	1
carnauba wax	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
Stoddard Solvent	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>1-mg/L	2
	EC50	48	Crustacea	>1-mg/L	2
	EC50	72	Algae or other aquatic plants	>1-mg/L	2
	NOEC	3072	Fish	=1mg/L	1
	LC50	96	Fish	0.14mg/L	2
	EC50	96	Algae or other aquatic plants	0.277mg/L	2
	NOEC	720	Crustacea	0.024mg/L	2
polydimethylsiloxane	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	3.16mg/L	4

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aminoalkoxydimethylpolysiloxane	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
methanol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	11-850mg/L	2
	EC50	48	Crustacea	>10-mg/L	2
	EC50	96	Algae or other aquatic plants	16.912mg/L	4
	BCF	24	Algae or other aquatic plants	0.05mg/L	4
	EC0	48	Crustacea	>10-mg/L	2
	NOEC	72	Crustacea	0.1mg/L	4
decamethylcyclopentasiloxane	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>0.016mg/L	2
	EC50	48	Crustacea	>0.0029mg/L	2
	EC50	96	Algae or other aquatic plants	>0.012mg/L	2
	NOEC	48	Crustacea	>=0.0029mg/L	2
octamethylcyclotetrasiloxane	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>0.0063mg/L	2
	EC50	48	Crustacea	>0.015mg/L	2
	EC50	96	Algae or other aquatic plants	>0.022mg/L	2
	BCF	120	Fish	0.00053mg/L	4
	NOEC	336	Fish	<=0.0044mg/L	4
octocrylene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	>10-mg/L	2
	EC50	48	Crustacea	>0.023mg/L	2
	EC50	72	Algae or other aquatic plants	>220mg/L	2
	NOEC	96	Fish	10-mg/L	2
benzyl benzoate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.9mg/L	1
	EC50	48	Crustacea	3.09mg/L	2
	EC50	72	Algae or other aquatic plants	0.311mg/L	2
	NOEC	72	Algae or other aquatic plants	0.065mg/L	2
2-acetyl-1,2,3,4,6,7,8-octahydro-tetramethylnaphthalene	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
Not Available	Not Available	Not Available	Not Available	Not Available	
coumarin	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.324mg/L	2
	EC50	48	Crustacea	8.012mg/L	2
	EC50	96	Algae or other aquatic plants	1.452mg/L	2
	BCF	24	Algae or other aquatic plants	0.05mg/L	4
	NOEC	72	Algae or other aquatic plants	0.431mg/L	2
terpinyl acetate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.663mg/L	3
	EC50	48	Crustacea	>10mg/L	2
	EC50	96	Algae or other aquatic plants	0.144mg/L	3
	NOEC	72	Algae or other aquatic plants	2.7mg/L	2
galaxolide	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	0.039mg/L	3
	EC50	48	Crustacea	0.3mg/L	2
	EC50	96	Algae or other aquatic plants	0.043mg/L	3
	NOEC	132.0	Crustacea	0.037mg/L	2
4-tert-butylcyclohexyl acetate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
LC50	96	Fish	1.523mg/L	3	

Continued...

Gel Wax - (Grey)

	EC50	48	Crustacea	5.3mg/L	2
	EC50	96	Algae or other aquatic plants	0.133mg/L	3
	NOEC	72	Algae or other aquatic plants	6.8mg/L	2
furfural	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	16.1mg/L	4
	EC50	96	Algae or other aquatic plants	517.740mg/L	3
	NOEC	288	Fish	0.33mg/L	2
geranyl acetate	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1.400mg/L	3
	EC50	48	Crustacea	14.1mg/L	2
	EC50	96	Algae or other aquatic plants	0.122mg/L	3
	EC100	48	Crustacea	>90mg/L	2
NOEC	72	Algae or other aquatic plants	0.585mg/L	2	
Helichrysum splendium oil	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
Organoclay	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
isopropanol	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	9-640mg/L	2
	EC50	48	Crustacea	12500mg/L	5
	EC50	96	Algae or other aquatic plants	993.232mg/L	3
	EC0	24	Crustacea	5-102mg/L	2
NOEC	5760	Fish	0.02mg/L	4	
tall oil fatty acids diethanolamide	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available
diethanolamine	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	LC50	96	Fish	1-480mg/L	2
	EC50	48	Crustacea	=28.8mg/L	1
	EC50	96	Algae or other aquatic plants	=2.1-2.3mg/L	1
	EC10	72	Algae or other aquatic plants	0.7mg/L	2
NOEC	72	Algae or other aquatic plants	0.6mg/L	2	
CHROMATINT JET BLACK 1990	ENDPOINT	TEST DURATION (HR)	SPECIES	VALUE	SOURCE
	Not Available	Not Available	Not Available	Not Available	Not Available

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*

Toxic 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.

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

Toxic to bees.

For Siloxanes:

Environmental Fate: Siloxanes are used in cosmetics, wax, polishes, and to a minor extent in several other applications.

Atmospheric Fate: In the presence of nitrate ions, short chain siloxanes are broken down by sunlight to the level of silicate within days. The main source atmospheric siloxane release to the air is via evaporation.

Aquatic Fate: It is well accepted that polydimethylsiloxane fluids become permanent residents of sediment but should not have adverse environmental effects. Silicone fluids are very surface active on surface waters. These substances tend to move into the aquatic compartment attached to textiles, sewage sludge, hair, algae, sediment, etc. Non-evaporating silicone fluids used in cosmetics, wax, polishes, cleaning products and those used in textile applications, (softeners), will, to a large extent, end up in wastewater and be directed to wastewater treatment plants.

Ecotoxicity: Siloxanes are chemically stable which makes them very persistent in the environment, where they are expected to remain for many years. The cyclic siloxanes and small-chain linear siloxanes will concentrate in the food chain concentrated (long-chained siloxanes have not been assessed). The estimated bioconcentration factors, (BCF), of the small siloxanes range from 340 for HMDS to 40,000 for a phenyl trimethicone. The small phenylated siloxanes may be substances are the most toxic for aquatic organisms. EPA screening criteria indicates that all siloxanes are of high concern as to environmental toxicity and that the phenyl siloxanes are considered very bioaccumulative.

Ecotoxicity: Siloxanes are moderately toxic to fish, including rainbow trout, and sheepshead minnow. These substances are also moderately toxic to Daphnia magna water fleas, and mysid shrimp.

Gel Wax - (Grey)

Environmental Fate: Furfural rapidly degrades in four sandy loam soils with 2-furoic acid as the major by-product. Furfural residues are highly mobile in three sandy loams but have low mobility in Bog sand.

Ecotoxicity: Avian acute oral toxicity: Furfural is found to be moderately toxic to Mallard ducks and Japanese quail.

Acute fish toxicity: Toxicity test conducted on Bluegill sunfish and rainbow trout show that furfural is moderately toxic to fish.

Acute aquatic invertebrate toxicity: Furfural is slightly toxic to *Daphnia magna*.

Avian acute oral toxicity: Toxicity test conducted on mallard and Japanese quail shows that furfural is moderately toxic.

Bird LD50: Mallard 360.5 mg/kg; Japanese quail 278.5 mg/kg

Fish LC50: rainbow trout 3.06 ppm; bluegill sunfish 5.8 ppm

Daphnia magna LC/EC50: 20.4 ppm

For petroleum distillates:

Environmental fate:

When petroleum substances are released into the environment, four major fate processes will take place: dissolution in water, volatilization, biodegradation and adsorption. These processes will cause changes in the composition of these UVCB substances. In the case of spills on land or water surfaces, photodegradation-another fate process-can also be significant.

As noted previously, the solubility and vapour pressure of components within a mixture will differ from those of the component alone. These interactions are complex for complex UVCBs such as petroleum hydrocarbons.

Each of the fate processes affects hydrocarbon families differently. Aromatics tend to be more water-soluble than aliphatics of the same carbon number, whereas aliphatics tend to be more volatile. Thus, when a petroleum mixture is released into the environment, the principal water contaminants are likely to be aromatics, whereas aliphatics will be the principal air contaminants. The trend in volatility by component class is as follows: alkenes = alkanes > aromatics = cycloalkanes.

The most soluble and volatile components have the lowest molecular weight; thus there is a general shift to higher molecular weight components in residual materials.

Biodegradation:

Biodegradation is almost always operative when petroleum mixtures are released into the environment. It has been widely demonstrated that nearly all soils and sediments have populations of bacteria and other organisms capable of degrading petroleum hydrocarbons. Degradation occurs both in the presence and absence of oxygen. Two key factors that determine degradation rates are oxygen supply and molecular structure. In general, degradation is more rapid under aerobic conditions. Decreasing trends in degradation rates according to structure are as follows:

(1) n-alkanes, especially in the C10–C25 range, which are degraded readily;

(2) isoalkanes;

(3) alkenes;

(4) benzene, toluene, ethylbenzene, xylenes (BTEX) (when present in concentrations that are not toxic to microorganisms);

(5) monoaromatics;

(6) polynuclear (polycyclic) aromatic hydrocarbons (PAHs); and

(7) higher molecular weight cycloalkanes (which may degrade very slowly).

Three weathering processes-dissolution in water, volatilization and biodegradation-typically result in the depletion of the more readily soluble, volatile and degradable compounds and the accumulation of those most resistant to these processes in residues.

When large quantities of a hydrocarbon mixture enter the soil compartment, soil organic matter and other sorption sites in soil are fully saturated and the hydrocarbons will begin to form a separate phase (a non-aqueous phase liquid, or NAPL) in the soil. At concentrations below the retention capacity for the hydrocarbon in the soil, the NAPL will be immobile. This is referred to as residual NAPL. Above the retention capacity, the NAPL becomes mobile and will move within the soil.

Bioaccumulation:

Bioaccumulation potential was characterized based on empirical and/or modelled data for a suite of petroleum hydrocarbons expected to occur in petroleum substances.

Bioaccumulation factors (BAFs) are the preferred metric for assessing the bioaccumulation potential of substances, as the bioconcentration factor (BCF) may not adequately account for the bioaccumulation potential of substances via the diet, which predominates for substances with log Kow > ~4.5.

In addition to fish BCF and BAF data, bioaccumulation data for aquatic invertebrate species were also considered. Biota-sediment/soil accumulation factors (BSAFs), trophic magnification factors and biomagnification factors were also considered in characterizing bioaccumulation potential.

Overall, there is consistent empirical and predicted evidence to suggest that the following components have the potential for high bioaccumulation, with BAF/BCF values greater than 5000: C13–C15 isoalkanes, C12 alkenes, C12–C15 one-ring cycloalkanes, C12 and C15 two-ring cycloalkanes, C14 polycycloalkanes, C15 one-ring aromatics, C15 and C20 cycloalkane monoaromatics, C12–C13 diaromatics, C20 cycloalkane diaromatics, and C14 and C20 three-ring PAHs.

These components are associated with a slow rate of metabolism and are highly lipophilic. Exposures from water and diet, when combined, suggest that the rate of uptake would exceed that of the total elimination rate. Most of these components are not expected to biomagnify in aquatic or terrestrial foodwebs, largely because a combination of metabolism, low dietary assimilation efficiency and growth dilution allows the elimination rate to exceed the uptake rate from the diet; however, one study suggests that some alkyl-PAHs may biomagnify. While only BSAFs were found for some PAHs, it is possible that BSAFs will be > 1 for invertebrates, given that they do not have the same metabolic competency as fish.

In general, fish can efficiently metabolize aromatic compounds. There is some evidence that alkylation increases bioaccumulation of naphthalene but it is not known if this can be generalized to larger PAHs or if any potential increase in bioaccumulation due to alkylation will be sufficient to exceed a BAF/BCF of 5000.

Some lower trophic level organisms (i.e., invertebrates) appear to lack the capacity to efficiently metabolize aromatic compounds, resulting in high bioaccumulation potential for some aromatic components as compared to fish.

This is the case for the C14 three-ring PAH, which was bioconcentrated to a high level (BCF > 5000) by invertebrates but not by fish. There is potential for such bioaccumulative components to reach toxic levels in organisms if exposure is continuous and of sufficient magnitude, though this is unlikely in the water column following a spill scenario due to relatively rapid dispersal.

Bioaccumulation of aromatic compounds might be lower in natural environments than what is observed in the laboratory. PAHs may sorb to organic material suspended in the water column (dissolved humic material), which decreases their overall bioavailability primarily due to an increase in size. This has been observed with fish.

Ecotoxicity:

Diesel fuel studies in salt water are available. The values varied greatly for aquatic species such as rainbow trout and *Daphnia magna*, demonstrating the inherent variability of diesel fuel compositions and its effects on toxicity. Most experimental acute toxicity values are above 1 mg/L. The lowest 48-hour LC50 for salmonids was 2.4 mg/L. *Daphnia magna* had a 24-hour LC50 of 1.8 mg/L. The values varied greatly for aquatic species such as rainbow trout and *Daphnia magna*, demonstrating the inherent variability of diesel fuel compositions and its effects on toxicity. Most experimental acute toxicity values are above 1 mg/L. The lowest 48-hour LC50 for salmonids was 2.4 mg/L. *Daphnia magna* had a 24-hour LC50 of 1.8 mg/L.

The tropical mysid *Metamysidopsis insularis* was shown to be very sensitive to diesel fuel, with a 96-hour LC50 value of 0.22 mg/L. This species has been shown to be as sensitive as temperate mysids to toxicants. However, in this study used nominal concentrations, and therefore was not considered acceptable. In another study involving diesel fuel, the effect on brown or common shrimp (*Crangon crangon*) a 96-hour LC50 of 22 mg/L was determined. A "gas oil" was also tested and a 96-hour LC50 of 12 mg/L was determined.

The steady state cell density of marine phytoplankton decreased with increasing concentrations of diesel fuel, with different sensitivities between species. The diatom *Phaeodactylum tricornutum* showed a 20% decrease in cell density in 24 hours following a 3 mg/L exposure with a 24-hour no-observed effect concentration (NOEC) of 2.5 mg/L. The microalga *Isochrysis galbana* was more tolerant to diesel fuel, with a 24-hour lowest-observed-effect concentration (LOEC) of 26 mg/L (14% decrease in cell density), and a NOEC of 25 mg/L. Finally, the green algae *Chlorella salina* was relatively insensitive to diesel fuel contamination, with a 24-hour LOEC of 170 mg/L (27% decrease in cell density), and a NOEC of 160 mg/L. All populations of phytoplankton returned to a steady state within 5 days of exposure.

In sandy soils, earthworm (*Eisenia fetida*) mortality only occurred at diesel fuel concentrations greater than 10 000 mg/kg, which was also the concentration at which sub-lethal weight loss was recorded.

Nephrotoxic effects of diesel fuel have been documented in several animal and human studies. Some species of birds (mallard ducks in particular) are generally resistant to the toxic effects of petrochemical ingestion, and large amounts of petrochemicals are needed in order to cause direct mortality.

Drinking Water Standards: hydrocarbon total: 10 ug/l (UK max.).

For Hydrocarbons: log Kow 1. BCF~10.

For Aromatics: log Kow 2-3.

BCF 20-200. For C5 and greater alkanes: log Kow 3-4.5. BCF 100-1,500.

For Alkanes, Benzene, Toluene, Ethylbenzene, Xylene (BTEX):

Environmental Fate: Microbes found in many natural settings (e.g., soils, groundwater, ponds) have been shown to be capable of degrading organic compounds. Some hydrocarbons will become associated with marine sediments likely to be spread over a fairly wide area of sea floor. Under aerobic conditions, hydrocarbons degrade to water and carbon dioxide, while under anaerobic processes, they produce water, methane and carbon dioxide. Anaerobic degradation is slower than aerobic. Biodegradation can eliminate the contaminants without dispersing them throughout the environment. The rate of hydrocarbon degradation depends on the chemical composition of the product released to the environment as well as site-specific environmental factors. Hydrocarbons with condensed ring structures, such as PAHs (polycyclic aromatic hydrocarbons) with four or more rings, have been shown to be

Gel Wax - (Grey)

relatively resistant to biodegradation. PAHs with only 2 or 3 rings (e.g., naphthalene, anthracene) are more easily biodegraded. In almost all cases, the presence of oxygen is essential for effective biodegradation. Straight chain hydrocarbons and aromatics degrade more readily than highly branched aliphatic compounds. The n-alkanes, n-alkyl aromatics, and the aromatics in the C10-C22 range are the most readily biodegradable; n-alkanes, n-alkyl aromatics, and aromatics in the C5-C9 range are biodegradable at low concentrations by some microorganisms, but are generally preferentially removed by volatilization and thus are unavailable in most environments; n-alkanes in the C1-C4 ranges are biodegradable only by a narrow range of specialized hydrocarbon degraders; n-alkanes, n-alkyl aromatics, and aromatics above C22 are generally not available to degrading microorganisms. The ideal pH range to promote biodegradation is close to neutral (6-8). For most species, the optimal pH is slightly alkaline, that is, greater than 7. Generally, as the temperature increases, biological activity tends to increase up to a temperature where enzyme denaturation occurs.

Atmospheric Fate: Alkanes, isoalkanes, and cycloalkanes have half-lives on the order of 1-10 days, whereas alkenes, cycloalkenes, and substituted benzenes have half-lives of 1 day or less. Photochemical oxidation products include aldehydes, hydroxy compounds, nitro compounds, and peroxyacyl nitrates. Alkenes, certain substituted aromatics, and naphthalene are potentially susceptible to direct photolysis.

Aquatic Fate: Volatilization half-life predicted as 7 days (ponds), 1.5 days (rivers), 6 days (lakes). Volatilization rate of naphthalene and its substituted derivatives estimated to be slower. The lower molecular weight hydrocarbons are expected to form a "slick" on the surface of waters after release in calm seas which is expected to evaporate and enter the atmosphere where it will be degraded through reaction with hydroxy radicals. Ecotoxicity: Effects on freshwater/saltwater organisms: Hydrocarbons are hydrophobic. Such substances produce toxicity in aquatic organisms by a mechanism referred to as "non-polar narcosis" or "baseline" toxicity. Toxic effects are often observed in species such as blue mussel, water fleas, freshwater green algae, marine copepods and amphipods.

Environmental Fate: Isothiazolinones are antimicrobials used to control bacteria, fungi, and for wood preservation and antifouling agents. They are frequently used in personal care products such as shampoos and other hair care products, as well as certain paint formulations. The most common isothiazolinone combinations are 5-chloro-2-methyl-4-isothiazolin-3-one, (CMI), and 2-methyl-4-isothiazolin-3-one, (MI).

Aquatic Fate: 5-chloro-2-methyl-4-isothiazolin-3-one, (CMI), and 2-methyl-4-isothiazolin-3-one, (MI), undergo primary biological breakdown with half-lives of less than 24 hours in both oxygenated and low oxygen sediments with >55% breakdown occurring within 29 days.

Ecotoxicity: The isothiazolinones are very toxic to marine organisms, (fish, Daphnia magna water fleas, and algae), and have low potential for accumulation in aquatic species. The proposed metabolites of MI and CMI are considered to have a low aquatic toxicity, based partially on data for the structurally related N-(n-octyl) malonamic acid.

For 2-bromo-2-nitropropan-1,3-diol (Bronopol)

Environmental fate:

One hydrolysis study indicates that bronopol appears to hydrolyse slowly at acidic or neutral pH conditions. Bronopol decomposes in aqueous solution on exposure to light. Increases in temperature increase decomposition.

Ecotoxicity:

Bird LD50: mallard duck 510 mg/kg

Bird dietary LC50: quail 4488 ppm

Daphnia magna EC50 (48 h): 1.4 mg/l

Fish LC50: trout 41.5 ppm

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
water	LOW	LOW
2-methyl-4-isothiazolin-3-one	HIGH	HIGH
sodium chloride	LOW	LOW
2-bromo-2-nitropropan-1,3-diol	LOW	LOW
5-chloro-2-methyl-4-isothiazolin-3-one	HIGH	HIGH
methanol	LOW	LOW
decamethylcyclopentasiloxane	HIGH	HIGH
octamethylcyclotetrasiloxane	HIGH	HIGH
benzyl benzoate	HIGH	HIGH
coumarin	LOW	LOW
terpinyl acetate	HIGH	HIGH
galaxolide	HIGH	HIGH
4-tert-butylcyclohexyl acetate	HIGH	HIGH
furfural	LOW	LOW
geranyl acetate	LOW	LOW
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)
diethanolamine	LOW (Half-life = 14 days)	LOW (Half-life = 0.3 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
water	LOW (LogKOW = -1.38)
2-methyl-4-isothiazolin-3-one	LOW (LogKOW = -0.8767)
sodium chloride	LOW (LogKOW = 0.5392)
2-bromo-2-nitropropan-1,3-diol	LOW (LogKOW = -0.6408)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (LogKOW = 0.0444)
Stoddard Solvent	LOW (BCF = 159)
methanol	LOW (BCF = 10)
decamethylcyclopentasiloxane	HIGH (LogKOW = 5.2)
octamethylcyclotetrasiloxane	HIGH (BCF = 12400)
benzyl benzoate	MEDIUM (LogKOW = 3.97)
coumarin	LOW (LogKOW = 1.39)
terpinyl acetate	MEDIUM (LogKOW = 3.96)
galaxolide	HIGH (LogKOW = 5.9183)

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4-tert-butylcyclohexyl acetate	MEDIUM (LogKOW = 4.4225)
furfural	LOW (LogKOW = 0.41)
geranyl acetate	MEDIUM (LogKOW = 4.4754)
isopropanol	LOW (LogKOW = 0.05)
diethanolamine	LOW (BCF = 1)

Mobility in soil

Ingredient	Mobility
water	LOW (KOC = 14.3)
2-methyl-4-isothiazolin-3-one	LOW (KOC = 27.88)
sodium chloride	LOW (KOC = 14.3)
2-bromo-2-nitropropan-1,3-diol	HIGH (KOC = 1)
5-chloro-2-methyl-4-isothiazolin-3-one	LOW (KOC = 45.15)
methanol	HIGH (KOC = 1)
decamethylcyclotetrasiloxane	LOW (KOC = 145200)
octamethylcyclotetrasiloxane	LOW (KOC = 17960)
benzyl benzoate	LOW (KOC = 3119)
coumarin	LOW (KOC = 146.1)
terpinyl acetate	LOW (KOC = 531.9)
galaxolide	LOW (KOC = 10380)
4-tert-butylcyclohexyl acetate	LOW (KOC = 517.4)
furfural	LOW (KOC = 17.71)
geranyl acetate	LOW (KOC = 604.3)
isopropanol	HIGH (KOC = 1.06)
diethanolamine	HIGH (KOC = 1)

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>Otherwise:</p> <ul style="list-style-type: none"> ▶ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill. ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product. <p>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.</p> <p>A Hierarchy of Controls seems to be common - the user should investigate:</p> <ul style="list-style-type: none"> ▶ Reduction ▶ Reuse ▶ Recycling ▶ Disposal (if all else fails) <p>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.</p> <ul style="list-style-type: none"> ▶ 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. ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first. ▶ Where in doubt contact the responsible authority. ▶ Recycle wherever possible or consult manufacturer for recycling options. ▶ Consult State Land Waste Authority for disposal. ▶ Bury or incinerate residue at an approved site. ▶ Recycle containers if possible, or dispose of in an authorised landfill.
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SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant	NO
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Land transport (DOT): 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

Continued...

SECTION 15 REGULATORY INFORMATION**Safety, health and environmental regulations / legislation specific for the substance or mixture****WATER IS FOUND ON THE FOLLOWING REGULATORY LISTS**

IMO IBC Code Chapter 18: List of products to which the Code does not apply
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

1,2-BENZISOTHAZOLINE-3-ONE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide

US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements

2-METHYL-4-ISOTHAZOLIN-3-ONE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide

US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements

SODIUM CHLORIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards
 US - Oregon Permissible Exposure Limits (Z-3)
 US DOE Temporary Emergency Exposure Limits (TEELs)

US OSHA Permissible Exposure Levels (PELs) - Table Z3
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

KAOLIN, CALCINED IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Idaho - Limits for Air Contaminants
 US - Michigan Exposure Limits for Air Contaminants
 US - Oregon Permissible Exposure Limits (Z-3)
 US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
 US - Washington Permissible exposure limits of air contaminants
 US CWA (Clean Water Act) - Priority Pollutants

US CWA (Clean Water Act) - Toxic Pollutants
 US EPA Carcinogens Listing
 US OSHA Permissible Exposure Levels (PELs) - Table Z3
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

ALCOHOLS C16-18 ETHOXYLATED IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide

US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US Toxic Substances Control Act (TSCA) - Premanufacture Notice (PMN) Chemicals
 US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)

ALCOHOLS C16-18 AND C18-UNSATURATED, ETHOXYLATED IS FOUND ON THE FOLLOWING REGULATORY LISTS

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US Toxic Substances Control Act (TSCA) - Premanufacture Notice (PMN) Chemicals
 US TSCA Section 5(a)(2) - Significant New Use Rules (SNURs)

2-BROMO-2-NITROPROPAN-1,3-DIOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US - Oregon Permissible Exposure Limits (Z-3)
 US Department of Transportation (DOT), Hazardous Material Table

US OSHA Permissible Exposure Levels (PELs) - Table Z3
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

5-CHLORO-2-METHYL-4-ISOTHAZOLIN-3-ONE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)

US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements

CARNAUBA WAX IS FOUND ON THE FOLLOWING REGULATORY LISTS

US DOT Coast Guard Bulk Hazardous Materials - List of Flammable and Combustible Bulk Liquid Cargoes
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US TSCA Chemical Substance Inventory - Interim List of Active Substances

STODDARD SOLVENT IS FOUND ON THE FOLLOWING REGULATORY LISTS

Gel Wax - (Grey)

IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 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
 US - Alaska Limits for Air Contaminants
 US - California Permissible Exposure Limits for Chemical Contaminants
 US - Hawaii Air Contaminant Limits
 US - Idaho - Limits for Air Contaminants
 US - Idaho Toxic Air Pollutants Non- Carcinogenic Increments - Occupational Exposure Limits
 US - Michigan Exposure Limits for Air Contaminants
 US - Minnesota Permissible Exposure Limits (PELs)
 US - Oregon Permissible Exposure Limits (Z-1)
 US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
 US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
 US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
 US - Washington Permissible exposure limits of air contaminants

US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
 US ACGIH Threshold Limit Values (Spanish)
 US ACGIH Threshold Limit Values (TLV)
 US AIHA Workplace Environmental Exposure Levels (WEELs)
 US Chemical Footprint Project - Chemicals of High Concern List
 US Coast Guard, Department of Homeland Security Part 153: Ships Carrying Bulk Liquid, Liquefied gas or compressed gas hazardous materials. Table 1 to Part 153 --Summary of Minimum Requirements
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US DOT Coast Guard Bulk Hazardous Materials - List of Flammable and Combustible Bulk Liquid Cargoes
 US NIOSH Recommended Exposure Limits (RELs)
 US NIOSH Recommended Exposure Limits (RELs) (Spanish)
 US OSHA Permissible Exposure Levels (PELs) - Table Z1
 US OSHA Permissible Exposure Limits - Annotated Table Z-1 (Spanish)
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

POLYDIMETHYLSILOXANE IS FOUND ON THE FOLLOWING REGULATORY LISTS

IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
 US - Idaho Toxic Air Pollutants Non- Carcinogenic Increments - Occupational Exposure Limits
 US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants

US DOE Temporary Emergency Exposure Limits (TEELs)
 US DOT Coast Guard Bulk Hazardous Materials - List of Flammable and Combustible Bulk Liquid Cargoes
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

AMINOALKOXYDIMETHYLPOLYSILOXANE IS FOUND ON THE FOLLOWING REGULATORY LISTS

IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 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
 US Department of Transportation (DOT), Hazardous Material Table

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

METHANOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles
 IMDG Code - Medical First Aid Guide for use in accidents involving Dangerous Goods (MFAG) - Appendix 15 List Of Substances
 IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO MARPOL (Annex II) - List of Noxious Liquid Substances Carried in Bulk
 IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
 IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO
 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
 US - Alaska Limits for Air Contaminants
 US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)
 US - California Office of Environmental Health Hazard Assessment Proposition 65 No Significant Risk Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
 US - California Permissible Exposure Limits for Chemical Contaminants
 US - California Proposition 65 - Maximum Allowable Dose Levels (MADLs) for Chemicals Causing Reproductive Toxicity
 US - California Proposition 65 - Reproductive Toxicity
 US - Hawaii Air Contaminant Limits
 US - Idaho - Limits for Air Contaminants
 US - Idaho Toxic Air Pollutants Non- Carcinogenic Increments - Occupational Exposure Limits
 US - Michigan Exposure Limits for Air Contaminants
 US - Minnesota Permissible Exposure Limits (PELs)
 US - Oregon Permissible Exposure Limits (Z-1)
 US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
 US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
 US - Washington Permissible exposure limits of air contaminants
 US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
 US ACGIH Threshold Limit Values (Spanish)
 US ACGIH Threshold Limit Values (TLV)
 US AIHA Workplace Environmental Exposure Levels (WEELs)
 US Chemical Footprint Project - Chemicals of High Concern List
 US Clean Air Act - Hazardous Air Pollutants
 US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US DOT Coast Guard Bulk Hazardous Materials - List of Flammable and Combustible Bulk Liquid Cargoes
 US EPCRA Section 313 Chemical List
 US NIOSH Recommended Exposure Limits (RELs)
 US NIOSH Recommended Exposure Limits (RELs) (Spanish)
 US OSHA Permissible Exposure Levels (PELs) - Table Z1
 US OSHA Permissible Exposure Limits - Annotated Table Z-1 (Spanish)
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

DECAMETHYLCYCLOPENTASILOXANE IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Chemical Footprint Project - Chemicals of High Concern List
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

OCTAMETHYLCYCLOTETRAASILOXANE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Gel Wax - (Grey)

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 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
 US Chemical Footprint Project - Chemicals of High Concern List
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)

US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US Toxicology Excellence for Risk Assessment (TERA) Workplace Environmental Exposure Levels (WEEL)
 US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA Section 12(b) - List of Chemical Substances Subject to Export Notification Requirements
 US TSCA Section 4/12 (b) - Sunset Dates/Status

OCTOCRYLENE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table

US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

BENZYL BENZOATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)

US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

2-ACETYL-1,2,3,4,6,7,8-OCTAHYDROTETRAMETHYLNAPHTHALENE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table

US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

COUMARIN IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US - Oregon Permissible Exposure Limits (Z-3)
 US Clean Air Act - Hazardous Air Pollutants

US Coast Guard, Department of Homeland Security Part 153: Ships Carrying Bulk Liquid, Liquefied gas or compressed gas hazardous materials. Table 1 to Part 153 --Summary of Minimum Requirements
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US EPCRA Section 313 Chemical List
 US OSHA Permissible Exposure Levels (PELs) - Table Z3
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

TERPINYL ACETATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles
 IMO IBC Code Chapter 17: Summary of minimum requirements
 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

US Department of Transportation (DOT), Hazardous Material Table
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

GALAXOLIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US - Oregon Permissible Exposure Limits (Z-3)
 US Chemical Footprint Project - Chemicals of High Concern List
 US Department of Transportation (DOT), Hazardous Material Table

US OSHA Permissible Exposure Levels (PELs) - Table Z3
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

4-TERT-BUTYLCYCLOHEXYL ACETATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles
 IMO IBC Code Chapter 17: Summary of minimum requirements
 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

US Department of Transportation (DOT), Hazardous Material Table
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

FURFURAL IS FOUND ON THE FOLLOWING REGULATORY LISTS

Gel Wax - (Grey)

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
 US - Alaska Limits for Air Contaminants
 US - California Permissible Exposure Limits for Chemical Contaminants
 US - Hawaii Air Contaminant Limits
 US - Idaho - Limits for Air Contaminants
 US - Idaho Toxic Air Pollutants Non- Carcinogenic Increments - Occupational Exposure Limits
 US - Michigan Exposure Limits for Air Contaminants
 US - Minnesota Permissible Exposure Limits (PELs)
 US - Oregon Permissible Exposure Limits (Z-1)
 US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
 US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
 US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
 US - Washington Permissible exposure limits of air contaminants

GERANYL ACETATE IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles
 IMO IBC Code Chapter 17: Summary of minimum requirements
 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

HELICHRYSUM SPLENDIDUM OIL IS FOUND ON THE FOLLOWING REGULATORY LISTS

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
 US Department of Transportation (DOT), Hazardous Material Table

ORGANOCLAY IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

ISOPROPANOL IS FOUND ON THE FOLLOWING REGULATORY LISTS

GESAMP/EHS Composite List - GESAMP Hazard Profiles
 IMO IBC Code Chapter 17: Summary of minimum requirements
 IMO IBC Code Chapter 18: List of products to which the Code does not apply
 IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances
 IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO
 IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards
 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
 US - Alaska Limits for Air Contaminants
 US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELS)
 US - California Permissible Exposure Limits for Chemical Contaminants
 US - Hawaii Air Contaminant Limits
 US - Idaho - Limits for Air Contaminants
 US - Idaho Toxic Air Pollutants Non- Carcinogenic Increments - Occupational Exposure Limits
 US - Michigan Exposure Limits for Air Contaminants
 US - Minnesota Permissible Exposure Limits (PELs)
 US - Oregon Permissible Exposure Limits (Z-1)
 US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
 US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants

US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
 US ACGIH Threshold Limit Values (Spanish)
 US ACGIH Threshold Limit Values (TLV)
 US AIHA Workplace Environmental Exposure Levels (WEELs)
 US Chemical Footprint Project - Chemicals of High Concern List
 US Coast Guard, Department of Homeland Security Part 153: Ships Carrying Bulk Liquid, Liquefied gas or compressed gas hazardous materials. Table 1 to Part 153 --Summary of Minimum Requirements
 US CWA (Clean Water Act) - List of Hazardous Substances
 US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US NIOSH Recommended Exposure Limits (RELs)
 US NIOSH Recommended Exposure Limits (RELs) (Spanish)
 US OSHA Permissible Exposure Levels (PELs) - Table Z1
 US OSHA Permissible Exposure Limits - Annotated Table Z-1 (Spanish)
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

US Department of Transportation (DOT), Hazardous Material Table
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

US List of Active Substances Exempt from the TSCA Inventory Notifications (Active-Inactive) Rule
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
 US - Washington Permissible exposure limits of air contaminants
 US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
 US ACGIH Threshold Limit Values (Spanish)
 US ACGIH Threshold Limit Values (TLV)
 US AIHA Workplace Environmental Exposure Levels (WEELs)
 US Department of Transportation (DOT), Hazardous Material Table
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US DOT Coast Guard Bulk Hazardous Materials - List of Flammable and Combustible Bulk Liquid Cargoes
 US EPCRA Section 313 Chemical List
 US NIOSH Recommended Exposure Limits (RELs)
 US NIOSH Recommended Exposure Limits (RELs) (Spanish)
 US OSHA Permissible Exposure Levels (PELs) - Table Z1
 US OSHA Permissible Exposure Limits - Annotated Table Z-1 (Spanish)
 US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances
 US TSCA Section 4/12 (b) - Sunset Dates/Status

TALL OIL FATTY ACIDS DIETHANOLAMIDE IS FOUND ON THE FOLLOWING REGULATORY LISTS

Gel Wax - (Grey)

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
 US Department of Transportation (DOT), Hazardous Material Table

US Postal Service (USPS) Hazardous Materials Table: Postal Service Mailability Guide
 US Postal Service (USPS) Numerical Listing of Proper Shipping Names by Identification (ID) Number
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

DIETHANOLAMINE IS FOUND ON THE FOLLOWING REGULATORY LISTS

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 MARPOL 73/78 (Annex II) - List of Other Liquid Substances
 IMO Provisional Categorization of Liquid Substances - List 3: (Trade-named) mixtures containing at least 99% by weight of components already assessed by IMO, presenting safety hazards
 International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
 International FOSFA List of Banned Immediate Previous Cargoes
 US - Alaska Limits for Air Contaminants
 US - California Permissible Exposure Limits for Chemical Contaminants
 US - California Proposition 65 - Carcinogens
 US - Hawaii Air Contaminant Limits
 US - Idaho Toxic Air Pollutants Non- Carcinogenic Increments - Occupational Exposure Limits
 US - Michigan Exposure Limits for Air Contaminants
 US - Minnesota Permissible Exposure Limits (PELs)
 US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants

US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
 US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants
 US - Washington Permissible exposure limits of air contaminants
 US ACGIH Threshold Limit Values (TLV)
 US AIHA Workplace Environmental Exposure Levels (WEELs)
 US Chemical Footprint Project - Chemicals of High Concern List
 US Clean Air Act - Hazardous Air Pollutants
 US Coast Guard, Department of Homeland Security Part 153: Ships Carrying Bulk Liquid, Liquefied gas or compressed gas hazardous materials. Table 1 to Part 153 --Summary of Minimum Requirements
 US Department of Transportation (DOT) List of Hazardous Substances and Reportable Quantities - Hazardous Substances Other Than Radionuclides
 US DOE Temporary Emergency Exposure Limits (TEELs)
 US EPCRA Section 313 Chemical List
 US NIOSH Recommended Exposure Limits (RELs)
 US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
 US TSCA Chemical Substance Inventory - Interim List of Active Substances

CHROMATINT JET BLACK 1990 IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

Federal Regulations**Superfund Amendments and Reauthorization Act of 1986 (SARA)****SECTION 311/312 HAZARD CATEGORIES**

Flammable (Gases, Aerosols, Liquids, or Solids)	Yes
Gas under pressure	No
Explosive	No
Self-heating	No
Pyrophoric (Liquid or Solid)	No
Pyrophoric Gas	No
Corrosive to metal	No
Oxidizer (Liquid, Solid or Gas)	No
Organic Peroxide	No
Self-reactive	No
In contact with water emits flammable gas	No
Combustible Dust	No
Carcinogenicity	Yes
Acute toxicity (any route of exposure)	No
Reproductive toxicity	No
Skin Corrosion or Irritation	Yes
Respiratory or Skin Sensitization	Yes
Serious eye damage or eye irritation	Yes
Specific target organ toxicity (single or repeated exposure)	Yes
Aspiration Hazard	Yes
Germ cell mutagenicity	No
Simple Asphyxiant	No
Hazards Not Otherwise Classified	No

US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
Methanol	5000	2270
2-Furancarboxyaldehyde	5000	2270
Diethanolamine	100	45.4

State Regulations**US. CALIFORNIA PROPOSITION 65**

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

US - CALIFORNIA PROPOSITION 65 - CARCINOGENS: LISTED SUBSTANCE

Continued...

Gel Wax - (Grey)

Diethanolamine Listed

US - CALIFORNIA PROPOSITION 65 - REPRODUCTIVE TOXICITY: LISTED SUBSTANCE

Methanol Listed

National Inventory Status

National Inventory	Status
Australia - AICS	Yes
Canada - DSL	Yes
Canada - NDSL	No (galaxolide; 4-tert-butylcyclohexyl acetate; alcohols C16-18 and C18-unsaturated, ethoxylated; decamethylcyclopentasiloxane; 2-acetyl-1,2,3,4,6,7,8-octahydrotetramethylnaphthalene; polydimethylsiloxane; Helichrysum splendidum oil; diethanolamine; methanol; octamethylcyclotetrasiloxane; octocrylene; coumarin; terpinyl acetate; 1,2-benzisothiazoline-3-one; geranyl acetate; 2-bromo-2-nitropropan-1,3-diol; 5-chloro-2-methyl-4-isothiazolin-3-one; alcohols C16-18 ethoxylated; 2-methyl-4-isothiazolin-3-one; Stoddard Solvent; aminoalkoxydimethylpolysiloxane; water; tall oil fatty acids diethanolamide; kaolin, calcined; isopropanol; sodium chloride; benzyl benzoate; carnauba wax; furfural)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	No (polydimethylsiloxane; aminoalkoxydimethylpolysiloxane)
Japan - ENCS	No (alcohols C16-18 and C18-unsaturated, ethoxylated; 2-acetyl-1,2,3,4,6,7,8-octahydrotetramethylnaphthalene; polydimethylsiloxane; Helichrysum splendidum oil; alcohols C16-18 ethoxylated; Stoddard Solvent; aminoalkoxydimethylpolysiloxane; tall oil fatty acids diethanolamide; kaolin, calcined; carnauba wax)
Korea - KECI	Yes
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	Yes
Taiwan - TCSI	Yes
Mexico - INSQ	No (alcohols C16-18 and C18-unsaturated, ethoxylated; Helichrysum splendidum oil; terpinyl acetate; alcohols C16-18 ethoxylated; aminoalkoxydimethylpolysiloxane; tall oil fatty acids diethanolamide)
Vietnam - NCI	No (aminoalkoxydimethylpolysiloxane)
Russia - ARIPS	No (Helichrysum splendidum oil; alcohols C16-18 ethoxylated; aminoalkoxydimethylpolysiloxane)
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	12/18/2019
Initial Date	12/15/2019

SDS Version Summary

Version	Issue Date	Sections Updated
6.8.1.1.1	12/17/2019	Ingredients, Physical Properties

Other information

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

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

Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
 PC—STEL: Permissible Concentration-Short Term Exposure Limit
 IARC: International Agency for Research on Cancer
 ACGIH: American Conference of Governmental Industrial Hygienists
 STEL: Short Term Exposure Limit
 TEEL: Temporary Emergency Exposure Limit.
 IDLH: Immediately Dangerous to Life or Health Concentrations
 OSF: Odour Safety Factor
 NOAEL :No Observed Adverse Effect Level
 LOAEL: Lowest Observed Adverse Effect Level
 TLV: Threshold Limit Value
 LOD: Limit Of Detection
 OTV: Odour Threshold Value
 BCF: BioConcentration Factors
 BEI: Biological Exposure Index

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