

IR-26 High Temp Inhibitor

Impermitek

Version No: 3.11

Safety Data Sheet according to WHMIS 2023 requirements



Initial Date: 30/05/2023
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Print Date: 05/12/2025
S.GHS.CAN.EN

SECTION 1 Identification

Product Identifier

Product name	IR-26 High Temp Inhibitor
Synonyms	Not Available
Proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) with not more than 20% nitrocellulose, by mass, if the nitrogen content of the nitrocellulose is not more than 12.6%, by mass; or PAINT RELATED MATERIAL (including paint thinning or reducing compound) with not more than 20% nitrocellulose, by mass, if the nitrogen content of the nitrocellulose is not more than 12.6%, by mass (contains styrene)

Recommended use of the chemical and restrictions on use

Relevant identified uses	Raw material for production of polyester roof waterproofing systems
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Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	Impermitek
Address	5031 53 Ave, Mundare, AB, T0B 3H0, Canada
Telephone	+1 780 289 4542 or +1 780 906 4600
Fax	Not Available
Website	www.impermitek.com
Email	technical@impermitek.com

Emergency phone number

Association / Organisation	Canutec
Emergency telephone numbers	1-888-226-8832 (Canada and US)
Other emergency telephone numbers	1-613-996-6666 (International)

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)

Canadian WHMIS Symbols



Classification	Flammable Liquids Category 3, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Sensitisation (Skin) Category 1, Serious Eye Damage/Eye Irritation Category 2A, Hazardous to the Aquatic Environment Acute Hazard Category 3, Hazardous to the Aquatic Environment Long-Term Hazard Category 3
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Label elements

Hazard pictogram(s)	
Signal word	Danger

Hazard statement(s)

H226	Flammable liquid and vapour.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.
H317	May cause an allergic skin reaction.
H319	Causes serious eye irritation.
H412	Harmful to aquatic life with long lasting effects.

Physical and Health hazard(s) not otherwise classified
Not Applicable

Precautionary statement(s) Prevention

P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P280	Wear protective gloves, protective clothing, eye protection and face protection.
P240	Ground and bond container and receiving equipment.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
P331	Do NOT induce vomiting.
P370+P378	In case of fire: Use alcohol resistant foam or normal protein foam to extinguish.
P302+P352	IF ON SKIN: Wash with plenty of water and soap.

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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No further product hazard information.

SECTION 3 Composition / information on ingredients

Substances
See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
100-42-5	20-30	styrene
688-84-6	7	2-ethylhexyl methacrylate
17832-28-9	3	1,4-butanediol vinyl ether
246538-78-3	0.5	alkanes, C11-C13-iso-
64742-95-6.	0.2	aromatic 150
111-46-6	4.4	diethylene glycol
27253-31-2	0.09	cobalt neodecanoate
700-13-0	1.1	trimethylhydroquinone

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: ▶ Immediately hold eyelids apart and flush the eye continuously with running water. ▶ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. ▶ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes. ▶ Transport to hospital or doctor without delay. ▶ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: ▶ Immediately remove all contaminated clothing, including footwear. ▶ Flush skin and hair with running water (and soap if available). ▶ Seek medical attention in event of irritation.
Inhalation	▶ If fumes or combustion products are inhaled remove from contaminated area. ▶ Lay patient down. Keep warm and rested. ▶ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. ▶ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. ▶ Transport to hospital, or doctor, without delay.
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.

Indication of any immediate medical attention and special treatment needed

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

For acute or short term repeated exposures to styrene:

INHALATION:

- Severe exposures should have cardiac monitoring to detect arrhythmia.
- Catecholamines, especially epinephrine (adrenaline) should be used cautiously (if at all).
- Aminophylline and inhaled beta-two selective bronchodilators (e.g. salbutamol) are the drugs of choice for treatment of bronchospasm.

INGESTION:

- Ipecac syrup should be given for ingestions exceeding 3ml (styrene)/kg.
- For patients at risk of aspiration because of obtundation, intubation should precede lavage.
- Pneumonitis is a significant risk. Watch the patient closely in an upright (alert patient) or left lateral head-down position (obtunded patient) to reduce aspiration potential. [Ellenhorn and Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

These represent the determinants observed in specimens collected from a healthy worker who has been exposed at the Exposure Standard (ES or TLV):

Determinant	Index	Sampling Time	Comments
1. Mandelic acid in urine	800 mg/gm creatinine	End of shift	NS
	300 mg/gm creatinine	Prior to next shift	NS
2. Phenylglyoxylic acid in urine	240 mg/gm creatinine	End of shift	NS
	100 mg/gm creatinine	Prior to next shift	
3. Styrene in venous blood	0.55 mg/L	End of shift	SQ
	0.02 mg/L	Prior to next shift	SQ

- NS: Non-specific determinant; also seen after exposure to other materials.
- SQ: Semi-quantitative determinant - Interpretation may be ambiguous; should be used as a screening test or confirmatory test.
- B: Background levels occur in specimens collected from subjects **NOT** exposed

SECTION 5 Fire-fighting measures

Extinguishing media

- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

Special hazards arising from the substrate or mixture

Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
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Special protective equipment and precautions for fire-fighters

Fire Fighting	- Alert Fire Brigade and tell them location and nature of hazard. - May be violently or explosively reactive. - Wear breathing apparatus plus protective gloves. - Prevent, by any means available, spillage from entering drains or water course.
Fire/Explosion Hazard	- Liquid and vapour are highly flammable. - Severe fire hazard when exposed to heat, flame and/or oxidisers. - Vapour may travel a considerable distance to source of ignition. - Heating may cause expansion or decomposition leading to violent rupture of containers. Combustion products include: carbon dioxide (CO2) other pyrolysis products typical of burning organic material. Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions.

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	- 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.
Major Spills	- Clear area of personnel and move upwind. - Alert Fire Brigade and tell them location and nature of hazard. - May be violently or explosively reactive. - Wear breathing apparatus plus protective gloves.

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

SECTION 7 Handling and storage

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Precautions for safe handling

Safe handling	- 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. Contains low boiling substance: Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately. - Check for bulging containers. - Vent periodically - Always release caps or seals slowly to ensure slow dissipation of vapours - Avoid skin 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 allow clothing wet with material to stay in contact with skin
Other information	- Store in original containers in approved flame-proof area. - No smoking, naked lights, heat or ignition sources. DO NOT store in pits, depression, basement or areas where vapours may be trapped. - Keep containers securely sealed.

Conditions for safe storage, including any incompatibilities

Suitable container	- Packing as supplied by manufacturer. - Plastic containers may only be used if approved for flammable liquid. - Check that containers are clearly labelled and free from leaks. - For low viscosity materials (i) : Drums and jerry cans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure. - For materials with a viscosity of at least 2680 cSt. (23 deg. C) - For manufactured product having a viscosity of at least 250 cSt.
Storage incompatibility	For alkyl aromatics: The alkyl side chain of aromatic rings can undergo oxidation by several mechanisms. The most common and dominant one is the attack by oxidation at benzylic carbon as the intermediate formed is stabilised by resonance structure of the ring. - Following reaction with oxygen and under the influence of sunlight, a hydroperoxide at the alpha-position to the aromatic ring, is the primary oxidation product formed (provided a hydrogen atom is initially available at this position) - this product is often short-lived but may be stable dependent on the nature of the aromatic substitution; a secondary C-H bond is more easily attacked than a primary C-H bond whilst a tertiary C-H bond is even more susceptible to attack by oxygen - Monoalkylbenzenes may subsequently form monocarboxylic acids; alkyl naphthalenes mainly produce the corresponding naphthalene carboxylic acids. - Oxidation in the presence of transition metal salts not only accelerates but also selectively decomposes the hydroperoxides. - Vigorous reactions, sometimes amounting to explosions, can result from the contact between aromatic rings and strong oxidising agents. - Aromatics can react exothermically with bases and with diazo compounds. WARNING: May decompose violently or explosively on contact with other substances. - This substance, or one of its components, is one of the relatively few compounds which are described as 'endothermic' i.e. heat is absorbed into the compound, rather than released from it, during its formation. - The majority of endothermic compounds are thermodynamically unstable and may decompose explosively under various circumstances of initiation. - Many but not all endothermic compounds have been involved in decompositions, reactions and explosions and, in general, compounds with significantly positive values of standard heats of formation, may be considered suspect on stability grounds. - Contamination with polymerisation catalysts - peroxides, persulfates, oxidising agents - also strong acids, strong alkalies, will cause polymerisation with exotherm - generation of heat. - Polymerisation of large quantities may be violent - even explosive. - Avoid any contamination of this material as it is very reactive and any contamination is potentially hazardous Styrene: - requires inhibition with adequate levels of substituted phenol (such as tert-butylcatechol to prevent polymerisation - material that has had inhibitor removed, e.g.is uninhibited, must be refrigerated and used within 24 hours, i.e. not stored; contact with alkali solutions or glycols will remove inhibitor and render material unstable on storage - polymerisation may cause container to explode - polymerisation may be caused by elevated temperatures (above 66 deg C.), butyl lithium, peroxides, UV light, or sunlight - reacts violently with chlorosulfonic acid, strong oxidisers, sulfuric acid, xenon tetrafluoride - is incompatible with acids, rust, catalysts for vinyl polymerisation, 2,5-dimethyl-2,5-di(tert-butylperox)hexane, peroxides, metals salts (e.g., aluminium chloride, copper chlorate, manganese nitrate, etc.) - corrodes copper and its alloys - attacks some plastics, rubber or coatings - flow or agitation may generate electrostatic charges due to low conductivity - uninhibited monomer vapour may block vents and confined spaces by forming solid polymer

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	styrene	Styrene, monomer (Phenylethylene)	100 ppm / 420 mg/m3	525 mg/m3 / 125 ppm	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	styrene	Phenylethylene, see Styrene, monomer	100 ppm / 420 mg/m3	525 mg/m3 / 125 ppm	Not Available	Not Available
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	styrene	Vinyl benzene, see Styrene	100 ppm / 420 mg/m3	525 mg/m3 / 125 ppm	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	styrene	Styrene, monomer	20 ppm	40 ppm	Not Available	T20
Canada - Manitoba Occupational Exposure Limits	styrene	Not Available	20 ppm	40 ppm	Not Available	TLV® Basis: CNS impair; URT irr; peripheral

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
						neuropathy; BEI
Canada - Prince Edward Island Occupational Exposure Limits	styrene	Styrene, monomer	20 ppm	40 ppm	Not Available	TLV® Basis: CNS impair; URT irr; peripheral neuropathy; BEI
Canada - British Columbia Occupational Exposure Limits	styrene	Styrene - monomer	50 ppm	75 ppm	Not Available	Not Available
Canada - Ontario Occupational Exposure Limits	styrene	Styrene - monomer	35 ppm	100 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	styrene	Phenylethylene (Styrene, monomer)	20 ppm / 85 mg/m3	170 mg/m3 / 40 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	styrene	Styrene, monomer (Phenylethylene; Vinyl benzene)	20 ppm / 85 mg/m3	170 mg/m3 / 40 ppm	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	styrene	Vinyl benzene (Styrene, monomer)	20 ppm / 85 mg/m3	170 mg/m3 / 40 ppm	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	styrene	Styrene, monomer	20 ppm	40 ppm	Not Available	Schedule R
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	styrene	Styrene (monomer)	50 mg/m3	75 ppm	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure LimitsCanada	styrene	Styrene - monomer	20 ppm	40 ppm	Not Available	TLV Basis: central nervous system impairment; upper respiratory tract irritation; peripheral neuropathy. BEI
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	alkanes, C11-C13-iso-	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	alkanes, C11-C13-iso-	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	alkanes, C11-C13-iso-	Not Available	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - Prince Edward Island Occupational Exposure Limits	alkanes, C11-C13-iso-	Mineral oil, excluding metal working fluids - Pure, highly and severely refined	5 mg/m3	Not Available	Not Available	TLV® Basis: URT irr
Canada - British Columbia Occupational Exposure Limits	alkanes, C11-C13-iso-	Oil mist - mineral, severely refined	1 mg/m3	Not Available	Not Available	Not Available
Canada - Alberta Occupational Exposure Limits	alkanes, C11-C13-iso-	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Northwest Territories Occupational Exposure Limits	alkanes, C11-C13-iso-	Oil mist, mineral	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	alkanes, C11-C13-iso-	Mineral oil (mist): Pure, highly and ultra-refined - inhalable dust	5 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure LimitsCanada	alkanes, C11-C13-iso-	Oil mist - mineral	5 mg/m3	10 mg/m3	Not Available	TLV Basis: lung. As sampled by method that does not collect vapor.
Canada - Yukon Permissible Concentrations for Airborne Contaminant Substances	cobalt neodecanoate	Cobalt metal, dust and fume (as Co)	0.05 mg/m3	0.15 mg/m3	Not Available	Not Available

Exposure controls

Appropriate engineering controls	Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. 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.
Individual protection measures, such as personal protective equipment	
Eye and face protection	▶ Safety glasses with side shields. ▶ Chemical goggles. [AS/NZS 1337.1, EN166 or national equivalent] ▶ 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.
Skin protection	See Hand protection below
Hands/feet protection	▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber NOTE: ▶ 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. 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.

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	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. Personal hygiene is a key element of effective hand care.
Body protection	See Other protection below
Other protection	▶ Emergency deluge showers and eyewash fountains, supplied with potable water, should be located near, within sight of, and on the same level with locations where direct exposure is likely. ▶ Prior to each exit from an area containing confirmed human carcinogens, employees should be required to remove and leave protective clothing and equipment at the point of exit and at the last exit of the day, to place used clothing and equipment in impervious containers at the point of exit for purposes of decontamination or disposal. The contents of such impervious containers must be identified with suitable labels. For maintenance and decontamination activities, authorized employees entering the area should be provided with and required to wear clean, impervious garments, including gloves, boots and continuous-air supplied hood. ▶ Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood. ▶ Overalls. ▶ PVC Apron. ▶ PVC protective suit may be required if exposure severe. ▶ Eyewash unit. ▶ Some plastic personal protective equipment (PPE) (e.g. gloves, aprons, overshoes) are not recommended as they may produce static electricity. ▶ For large scale or continuous use wear tight-weave non-static clothing (no metallic fasteners, cuffs or pockets). ▶ Non sparking safety or conductive footwear should be considered. Conductive footwear describes a boot or shoe with a sole made from a conductive compound chemically bound to the bottom components, for permanent control to electrically ground the foot and shall dissipate static electricity from the body to reduce the possibility of ignition of volatile compounds.

Respiratory protection

Respiratory protection is only required in the likelihood that relevant exposure limits may be approached or exceeded, e.g. application in enclosed spaces with restricted air exchange. Concentrations of potentially hazardous substances in air will remain low during normal outdoor application and will not pose a risk to the applicator.

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

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

SECTION 9 Physical and chemical properties**Information on basic physical and chemical properties**

Appearance/Colour	Coloured		
Physical state	Liquid	Relative density (Water = 1)	1.30
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	0.15-25 ppm Styrene	Auto-ignition temperature (°C)	490
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	2800 mPas- 3600
Initial boiling point and boiling range (°C)	145	Molecular weight (g/mol)	Not Available
Flash point (°C)	32°C (estimate)	Taste	Not Available
Evaporation rate	12.4	Explosive properties	Product is not explosive. However, formation of explosive air/vapour mixtures is possible
Flammability	Flammable.	Oxidising properties	Not Available
Upper Explosive Limit (%)	6.1	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1.1	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	0.67	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	3.6 (Air = 1)	VOC g/L	Not Available
Heat of Combustion (kJ/g)	Not Available	Ignition Distance (cm)	Not Available
Flame Height (cm)	Not Available	Flame Duration (s)	Not Available
Enclosed Space Ignition Time Equivalent (s/m3)	Not Available	Enclosed Space Ignition Deflagration Density (g/m3)	Not Available
Particle Characteristics	Not Available		

SECTION 10 Stability and reactivity

Reactivity	See section 7
Chemical stability	▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7

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Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 Toxicological information

Information on toxicological effects

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	There is sufficient evidence to classify this material as skin corrosive or irritating.
c) Serious Eye Damage/Irritation	There is sufficient evidence to classify this material as eye damaging or irritating
d) Respiratory or Skin sensitisation	There is sufficient evidence to classify this material as sensitising to skin or the respiratory system
e) Mutagenicity	Based on available data, the classification criteria are not met.
f) Carcinogenicity	Based on available data, the classification criteria are not met.
g) Reproductivity	Based on available data, the classification criteria are not met.
h) STOT - Single Exposure	Based on available data, the classification criteria are not met.
i) STOT - Repeated Exposure	Based on available data, the classification criteria are not met.
j) Aspiration Hazard	There is sufficient evidence to classify this material as an aspiration hazard

Inhaled	Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects. The material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. 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. Central nervous system (CNS) depression is seen at styrene exposures exceeding 50 ppm, whilst headache, fatigue, nausea and dizziness are seen consistently at exposures of 100 ppm. Evidence exists that at 100 ppm, 5-10% reductions in sensory nerve conductions occur, and after exposure to 50 ppm, there is slowing of reaction times. 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. The acute toxicity of inhaled alkylbenzene is best described by central nervous system depression. These compounds may also act as general anaesthetics. Whole body symptoms of poisoning include light-headedness, nervousness, apprehension, a feeling of well-being, confusion, dizziness, drowsiness, ringing in the ears, blurred or double vision, vomiting and sensations of heat, cold or numbness, twitching, tremors, convulsions, unconsciousness, depression of breathing, and arrest. Heart stoppage may result from cardiovascular collapse. If exposure to highly concentrated vapour atmosphere is prolonged this may lead to narcosis, unconsciousness, even coma and unless resuscitated - death.
Ingestion	Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) The material is not thought to produce adverse health effects following ingestion (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum. Styrene is absorbed into the body following oral or inhalation exposure. Its metabolites include styrene oxide, styrene glycol, mandelic acid, benzoic acid, hippuric acid, phenyl glyoxylic acid and possibly vinyl phenol. It is detectable in liver, kidney, pancreas, expired air, urine and faeces in the body. Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual.
Skin Contact	The material may accentuate any pre-existing dermatitis condition Open cuts, abraded or irritated skin should not be exposed to this material 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. Styrene has been showed to be absorbed less through the skin than via the airways. Skin contact with the material may damage the health of the individual; systemic effects may result following absorption. The material may cause moderate inflammation of the skin either following direct contact or after a delay of some time. Repeated exposure can cause contact dermatitis which is characterised by redness, swelling and blistering.
Eye	There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain.
Chronic	Long-term exposure to respiratory irritants may result in airways disease, involving difficulty breathing and related whole-body problems. Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure. Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population. There is ample evidence that this material can be regarded as being able to cause cancer in humans based on experiments and other information. Toxic: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed. This material can cause serious damage if one is exposed to it for long periods. It can be assumed that it contains a substance which can produce severe defects. Ample evidence exists from experimentation that reduced human fertility is directly caused by exposure to the material. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Exposure to styrene may aggravate central nervous system disorders, chronic respiratory disease, skin disease, kidney disease and liver disease. Exposure to styrene at work causes effects on the nervous system.

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	Not Available	Not Available

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styrene	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (Human): 50ppm - Mild
	Inhalation (Mouse) LC50: 9.5 mg/L4h ^[2]	Eye (Rodent - rabbit): 100mg - Severe
	Oral (Mouse) LD50: 316 mg/kg ^[2]	Eye (Rodent - rabbit): 100mg/24H - Moderate
		Skin (Human): 500mg
		Skin (Rodent - rabbit): 100% - Moderate
2-ethylhexyl methacrylate	TOXICITY	IRRITATION
	Dermal (Guinea Pig) LD50: >17700 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Mouse) LD50: 2152 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
1,4-butanediol vinyl ether	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: 2050 mg/kg ^[2]	Skin: no adverse effect observed (not irritating) ^[1]
alkanes, C11-C13-iso-	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[2]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation (Rat) LC50: >5.266 mg/L4h ^[1]	Skin: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: >5000 mg/kg ^[2]	
aromatic 150	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Eye (Rodent - rabbit): 100uL/24H - Mild
	Inhalation (Rat) LC50: >4.42 mg/L4h ^[1]	Eye: adverse effect observed (irritating) ^[1]
	Oral (Rat) LD50: >4500 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
		Skin (Rodent - rabbit): 500uL/24H - Mild
		Skin: adverse effect observed (irritating) ^[1]
diethylene glycol	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: 11890 mg/kg ^[2]	Eye (Rodent - rabbit): 50mg - Mild
	Inhalation (Rat) LC50: >4.6 mg/l4h ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: 12565 mg/kg ^[2]	Skin (Human): 112mg/3D (intermittent) - Mild
		Skin (Rodent - rabbit): 500mg - Mild
cobalt neodecanoate	TOXICITY	IRRITATION
	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: 1098 mg/kg ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
trimethylhydroquinone	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >200 mg/kg ^[2]	Not Available
	Inhalation (Rat) LC50: 1.5 mg/L4h ^[2]	
	Oral (Rat) LD50: 3200 mg/kg ^[2]	

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

IR-26 High Temp Inhibitor	Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation. Data demonstrate that during inhalation exposure,aromatic hydrocarbons undergo substantial partitioning into adipose tissues. Following cessation of exposure, the level of aromatic hydrocarbons in body fats rapidly declines. Thus, the aromatic hydrocarbons are unlikely to bioaccumulate in the body. Selective partitioning of the aromatic hydrocarbons into the non-adipose tissues is unlikely.
STYRENE	WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.
2-ETHYLHEXYL METHACRYLATE	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

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	Monalkyl or monoarylestere of acrylic acids should be classified as R36/37/38 and R51/53 Monoalkyl or monoaryl esters 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 that contain the acrylate or methacrylate moiety (CH₂=CHCOO or CH₂=C(CH₃)COO) should be considered to be a carcinogenic hazard unless shown otherwise by adequate testing. This position has now been revised and acrylates and methacrylates are no longer <i>de facto</i> carcinogens.
1,4-BUTANEDIOL VINYL ETHER	Not mutagenic Ames assay * ISP MSDS
ALKANES, C11-C13-ISO-	C9 -C11 cyclic aliphatics were administered via oral gavage to 5 male and 5 female rats at a dose of 5000 mg/kg to assess acute oral toxicity. Animals were observed daily for 15 days post dosing. At a dose of 5000 mg/kg, signs of toxicity were sedation, dyspnea, hunched posture and ruffled fur. All animals had recovered until day 5 of observation and survived to study termination. C9 -C11 cyclic aliphatics were administered via individual inhalation chambers for eight hours to eight Sprague-Dawley rats at vapor concentration of 0 (air), 1 g/m³ (170ppm), 2.5 g/m³ (430ppm), 5 g/m³ (860ppm) for three consecutive days. There was no mortality noted in any of the animals. Based on the conditions of this study, the LC50 for acute inhalation exposure to C9 -C11 cyclic aliphatics vapor is greater than the highest obtainable vapor concentration (5 g/m³). Classification as an acute inhalation toxicant is not warranted. Five male and five female rabbits were exposed to P-D 20/26 for 24h via an occluded patch. Dermal evaluations occurred at 24 hours post patch removal and twice daily until the study termination at day 14. Exposure had no effect on viability; all animals survived the exposure. The LD50 of P-D 20/26 was > 2000 mg/kg. Skin irritation: Three rabbits were subjected to a 4h dermal (shaved) exposure of 0.5 ml of ECOLANE 90 via a semi-occluded patch. Dermal responses were evaluated at 1, 24, 48, and 72h post-dosing and once a day for a total of 14 days according to the Draize method of scoring. A very slight or well-defined erythema was observed in all animals from day 1 up to day 9 or 10. A slight oedema was noted in two animals on day 1 only. Eye Irritation: C9-C11, cyclic aliphatics was administered to the left eye of three male and three female rabbits to assess for ocular irritation. Ocular examinations occurred at 1h, 24h, 48h, 72h. Ocular damage was assessed and scored according to the Draize eye test. All animals survived the exposure. Sensitisation: A Magnusson and Kligman Guinea-Pig Maximization test was conducted on 20 guinea pigs with Shellsol TD. Twenty guinea pigs were treated by intradermal injection (1.0% (w/v) Shellsol TD in vehicle) to induce sensitization and then further sensitized by dermal application of 50.0% (w/v) Shellsol TD. Guinea Pigs were challenged by topical application (25.0% (w/v) Shellsol TD in corn oil). All animals survived to termination of study. In humans, MRD-88-296 showed no evidence of being a photocontact allergen and no evidence of being either a primary irritant or a contact allergen. Based on these data and results, MRD-88-296 would not be classified as a dermal irritant or as a dermal sensitizer. Repeat dose toxicity: oral Results of subchronic exposure of tetramethylcyclohexane (TMCH) to rats and dogs failed to show any treatment-related morphological or qualitative changes in the cellular elements of the peripheral blood picture. This result is consistent with a similar lack of effects noted after acute TMCH exposure. The NOAEL for rats was 30000ppm. The NOAEL for dogs was 1000ppm. Genetic toxicity: in vitro No Shellsol TD treatments of any of the test strains, either in the absence or in the presence of S-9, resulted in a statistically significant increase in revertant numbers, when the data were analysed at the 1% level using Dunnetts test. This study was therefore considered to have provided no indication of any SHELLSOL TD mutagenic activity. The test to assess the genotoxicity of the test material was negative. This finding does not warrant the classification of this test material as a genotoxin. Genetic toxicity: in vivo MRD-77-43 when administered by vapor inhalation to male rats is not considered mutagenic by the dominant lethal test. This finding does not warrant the classification of MRD-77-43 as a genotoxin. Toxicity to Reproduction: The NOAEL >=3000 mg/kg/day for male rat fertility. Male rats were given 0, 750, 1500 or 3000 mg/kg neat JP-8 daily by gavage for 70 days prior to mating with naive females to assess fertility and sperm parameters. Males were allowed to mate while continuing to receive treatment. Aside from a decrement in male body weight, no clinical signs were observed. There were no statistical differences noted in any reproductive parameter measured. Developmental toxicity: No adverse effects due to exposure to the test substance were seen in either dams or fetuses. No treatment related malformation effects were noted in the fetuses. The developmental NOAEC for rats by inhalation is >=300 ppm. The test substance is also not teratogeni * REACH Dossier The safety of isoparaffins as used in cosmetic products was reviewed by the Cosmetic Ingredient Review (CIR) Expert Panel. These ingredients function mostly as solvents and also function as emollients in the 0001% to 90% concentration range. The CIR Expert Panel has reviewed relevant animal and clinical data and concluded that these ingredients are safe in the present practices of use and concentration The CIR Expert Panel noted that most of the available data related to oral or inhalation exposure to isoparaffins, but the dermal and ocular exposure data that were available, suggested mild ocular irritation, mild-to-severe irritation, no sensitization or photosensitization, and no phototoxicity. No significant toxicity was identified in oral or inhalation exposure studies of the following end points: genotoxicity, reproductive and developmental toxicity, or carcinogenicity. Nephrotoxicity, however, was a concern. The Expert Panel noted the involvement of a2u-globulin in the mechanism for isoparaffin-induced nephrotoxicity/renal tubule cell proliferation in male rats of various strains in oral and inhalation exposure studies. Animal studies indicate that normal, branched and cyclic paraffins are absorbed from the gastrointestinal tract and that the absorption of n-paraffins is inversely proportional to the carbon chain length, with little absorption above C30. With respect to the carbon chain lengths likely to be present in mineral oil, n-paraffins may be absorbed to a greater extent than iso- or cyclo-paraffins. The major classes of hydrocarbons are well absorbed into the gastrointestinal tract in various species. In many cases, the hydrophobic hydrocarbons are ingested in association with fats in the diet. Some hydrocarbons may appear unchanged as in the lipoprotein particles in the gut lymph, but most hydrocarbons partly separate from fats and undergo metabolism in the gut cell.
AROMATIC 150	Petroleum contains aromatic (benzene, toluene, ethyl benzene, naphthalene) and aliphatic hydrocarbons (n-hexane), which can result in many detrimental health effects, including, cancer, tumour formation, hearing loss, and nervous system toxicity. Animal testing shows breathing in petroleum causes tumours of the liver and kidney; these are however not considered to be relevant in humans. Similarly, exposure to gasoline over a lifetime can cause kidney cancer in animals, but the relevance in humans is questionable. Most studies involving gasoline have shown that gasoline does not cause genetic mutation, including all recent studies in living human subjects (such as in petrol service station attendants). Animal studies show 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. Prolonged contact with petroleum may result in skin inflammation and make the skin more sensitive to irritation and penetration by other materials.
DIETHYLENE GLYCOL	Diglycolic acid is formed following the oxidation of accidentally ingested diethylene glycol in the body and can lead to severe complications with fatal outcome.
COBALT NEODECANOATE	Fatty acid salts of low acute toxicity. Their potential to irritate the skin and eyes is dependent on chain length.
TRIMETHYLHYDROQUINONE	Maternal effects recorded. Sensitising in skin painting test (guinea pig) * 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.
IR-26 High Temp Inhibitor & 2-ETHYLHEXYL METHACRYLATE & 1,4-BUTANEDIOL VINYL ETHER & AROMATIC 150 & TRIMETHYLHYDROQUINONE	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.
IR-26 High Temp Inhibitor & 2-ETHYLHEXYL METHACRYLATE & COBALT NEODECANOATE & TRIMETHYLHYDROQUINONE	The following information refers to contact allergens as a group and may not be specific to this product. 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.
STYRENE & DIETHYLENE GLYCOL	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.

Continued...

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COBALT NEODECANOATE & TRIMETHYLHYDROQUINONE	No significant acute toxicological data identified in literature search.			
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

IR-26 High Temp Inhibitor	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
styrene	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	1.4mg/l	1
	EC50	48h	Crustacea	4.7mg/l	1
	NOEC(ECx)	96h	Algae or other aquatic plants	0.063mg/l	1
	EC50	96h	Algae or other aquatic plants	0.72mg/l	1
	LC50	96h	Fish	3.29-5.05mg/L	4
2-ethylhexyl methacrylate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	7.68mg/l	2
	EC50	48h	Crustacea	0.85mg/l	2
	NOEC(ECx)	504h	Crustacea	0.105mg/l	2
	LC50	96h	Fish	1.78mg/l	2
1,4-butanediol vinyl ether	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	32.2mg/l	2
	EC50	48h	Crustacea	52mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	9.82mg/l	2
	LC50	96h	Fish	28.3mg/l	2
alkanes, C11-C13-iso-	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50(ECx)	72h	Algae or other aquatic plants	>1000mg/l	Not Available
	EC50	72h	Algae or other aquatic plants	>1000mg/l	Not Available
	LC50	96h	Fish	>1000mg/l	Not Available
aromatic 150	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	<1mg/l	1
	EC50	48h	Crustacea	0.95mg/l	1
	EC50	96h	Algae or other aquatic plants	11.7mg/l	2
	EC50(ECx)	48h	Crustacea	0.95mg/l	1
	LC50	96h	Fish	0.58mg/l	2
	EC50	72h	Algae or other aquatic plants	19mg/l	1
	EC50	48h	Crustacea	6.14mg/l	1
	EC50	96h	Algae or other aquatic plants	64mg/l	2
	NOEC(ECx)	72h	Algae or other aquatic plants	1mg/l	1
diethylene glycol	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>6500<13000mg/l	2
	EC50	48h	Crustacea	>100mg/l	2
	NOEC(ECx)	192h	Algae or other aquatic plants	800mg/l	1
	EC50	96h	Algae or other aquatic plants	4566mg/l	2
	LC50	96h	Fish	>100mg/l	4

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cobalt neodecanoate	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	0.029mg/L	2
	EC50	48h	Crustacea	0.241mg/L	2
	EC10(ECx)	168h	Crustacea	0.001mg/L	2
	EC50	96h	Algae or other aquatic plants	23.8mg/l	2
	LC50	96h	Fish	0.8mg/l	2
trimethylhydroquinone	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	13mg/l	1
	EC50	48h	Crustacea	0.97mg/l	1
	EC50	96h	Algae or other aquatic plants	15.1mg/l	1
	EC0(ECx)	48h	Crustacea	0.312mg/l	1
	LC50	96h	Fish	1mg/l	1
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. US EPA, Ecotox database - Aquatic Toxicity Data 4. ECETOC Aquatic Hazard Assessment Data 5. NITE (Japan) - Bioconcentration Data 6. METI (Japan) - Bioconcentration Data 7. Vendor Data				

Very 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.

For Aromatic Substances Series:

Environmental Fate: Large, molecularly complex polycyclic aromatic hydrocarbons, or PAHs, are persistent in the environment longer than smaller PAHs.

Atmospheric Fate: PAHs are 'semi-volatile substances' which can move between the atmosphere and the Earth's surface in repeated, temperature-driven cycles of deposition and volatilization. Terrestrial Fate: BTEX compounds have the potential to move through soil and contaminate ground water, and their vapors are highly flammable and explosive.

Ecotoxicity - Within an aromatic series, acute toxicity increases with increasing alkyl substitution on the aromatic nucleus.

For styrene:

Transport: Styrene is expected to volatilise from surface waters, and is also removed from waters by adsorption onto soils and sediments. Under certain conditions, styrene may leach through soil (particularly sandy soils) and enter ground water.

Transformation/Persistence: Air - In the atmosphere, styrene reacts with both hydroxyl radicals and ozone with estimated half-lives of 3.5 and 9 hours, respectively. The chemical is also degraded in the presence of NOX and natural sunlight.

Substances containing unsaturated carbons are ubiquitous in indoor environments. They result from many sources (see below). Most are reactive with environmental ozone and many produce stable products which are thought to adversely affect human health. The potential for surfaces in an enclosed space to facilitate reactions should be considered.

Source of unsaturated substances Unsaturated substances (Reactive Emissions) Major Stable Products produced following reaction with ozone.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
styrene	HIGH (Half-life = 210 days)	LOW (Half-life = 0.3 days)
2-ethylhexyl methacrylate	LOW	LOW
1,4-butanediol vinyl ether	LOW	LOW
diethylene glycol	LOW	LOW
trimethylhydroquinone	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
styrene	LOW (BCF = 77)
2-ethylhexyl methacrylate	HIGH (LogKOW = 4.54)
1,4-butanediol vinyl ether	LOW (LogKOW = 0.4302)
aromatic 150	LOW (BCF = 159)
diethylene glycol	LOW (BCF = 180)
trimethylhydroquinone	LOW (LogKOW = 1.69)

Mobility in soil

Ingredient	Mobility
styrene	LOW (Log KOC = 517.8)
2-ethylhexyl methacrylate	LOW (Log KOC = 677)
1,4-butanediol vinyl ether	HIGH (Log KOC = 1)
diethylene glycol	HIGH (Log KOC = 1)
trimethylhydroquinone	LOW (Log KOC = 2002)

SECTION 13 Disposal considerations

Waste treatment methods	
Product / Packaging disposal	▶ Containers may still present a chemical hazard/ danger when empty. ▶ Return to supplier for reuse/ recycling if possible. Otherwise: ▶ 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.

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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.

A Hierarchy of Controls seems to be common - the user should investigate:

- ▶ Reduction
- ▶ Reuse
- ▶ Recycling
- ▶ Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.

- ▶ **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.
- ▶ Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility can be identified.
- ▶ Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or Incineration in a licensed apparatus (after admixture with suitable combustible material).
- ▶ Decontaminate empty containers.

SECTION 14 Transport information

Labels Required

	
Marine Pollutant	NO

Land transport (TDG)

14.1. UN number or ID number	1263		
14.2. UN proper shipping name	PAINT (including paint, lacquer, enamel, stain, shellac, varnish, polish, liquid filler and liquid lacquer base) with not more than 20% nitrocellulose, by mass, if the nitrogen content of the nitrocellulose is not more than 12.6%, by mass; or PAINT RELATED MATERIAL (including paint thinning or reducing compound) with not more than 20% nitrocellulose, by mass, if the nitrogen content of the nitrocellulose is not more than 12.6%, by mass (contains styrene)		
14.3. Transport hazard class(es)	Class	3	
	Subsidiary Hazard	Not Applicable	
14.4. Packing group	III Note Due to its relatively high viscosity this material can be considered non-hazardous in accordance to ARD 2.2.3.1.5 when packed in receptacles of less than 450 litres.		
14.5. Environmental hazard	Not Applicable		
14.6. Special precautions for user	Special provisions	59, 142	
	Explosive Limit and Limited Quantity Index	5 L	
	ERAP Index	Not Applicable	

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

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

14.7. Maritime transport in bulk according to IMO instruments

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

Not Applicable

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

Product name	Group
styrene	Not Applicable
2-ethylhexyl methacrylate	Not Applicable
1,4-butanediol vinyl ether	Not Applicable
alkanes, C11-C13-iso-	Not Applicable
aromatic 150	Not Applicable
diethylene glycol	Not Applicable
cobalt neodecanoate	Not Applicable
trimethylhydroquinone	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
styrene	Not Applicable
2-ethylhexyl methacrylate	Not Applicable
1,4-butanediol vinyl ether	Not Applicable
alkanes, C11-C13-iso-	Not Applicable

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Product name	Ship Type
aromatic 150	Not Applicable
diethylene glycol	Not Applicable
cobalt neodecanoate	Not Applicable
trimethylhydroquinone	Not Applicable

SECTION 15 Regulatory information

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

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

styrene is found on the following regulatory lists

- Canada Categorization decisions for all DSL substances
- Canada Domestic Substances List (DSL)
- Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS
- Chemical Footprint Project - Chemicals of High Concern List
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Group 2A: Probably carcinogenic to humans

2-ethylhexyl methacrylate is found on the following regulatory lists

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

1,4-butanediol vinyl ether is found on the following regulatory lists

- Canada Domestic Substances List (DSL)
- Canada Non-Domestic Substances List (NDSL)

alkanes, C11-C13-iso- is found on the following regulatory lists

- Canada Categorization decisions for all DSL substances
- Canada CEPA Environmental Registry Substance Lists - List of substances on the DSL that are Persistent, Bioaccumulative, and Inherently Toxic to the Environment
- Canada Domestic Substances List (DSL)
- Chemical Footprint Project - Chemicals of High Concern List

aromatic 150 is found on the following regulatory lists

- Canada Categorization decisions for all DSL substances
- Canada Domestic Substances List (DSL)
- Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS
- Chemical Footprint Project - Chemicals of High Concern List
- International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs - Not Classified as Carcinogenic

diethylene glycol is found on the following regulatory lists

- Canada Categorization decisions for all DSL substances
- Canada Domestic Substances List (DSL)
- Canada Toxicological Index Service - Workplace Hazardous Materials Information System - WHMIS GHS

cobalt neodecanoate is found on the following regulatory lists

- Canada Categorization decisions for all DSL substances
- Canada Domestic Substances List (DSL)
- Canada Non-Domestic Substances List (NDSL)
- Chemical Footprint Project - Chemicals of High Concern List

trimethylhydroquinone is found on the following regulatory lists

- Canada Non-Domestic Substances List (NDSL)

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIC / Australia Non-Industrial Use	No (1,4-butanediol vinyl ether)
Canada - DSL	No (trimethylhydroquinone)
Canada - NDSL	No (styrene; 2-ethylhexyl methacrylate; alkanes, C11-C13-iso-; aromatic 150; diethylene glycol)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	No (trimethylhydroquinone)
New Zealand - NZIoC	Yes
Philippines - PICCS	Yes
USA - TSCA	All chemical substances in this product have been designated as TSCA Inventory 'Active'
Taiwan - TCSI	Yes
Mexico - INSQ	No (2-ethylhexyl methacrylate; 1,4-butanediol vinyl ether; cobalt neodecanoate; trimethylhydroquinone)
Vietnam - NCI	Yes

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National Inventory	Status
Russia - FBEPH	No (1,4-butanediol vinyl ether)
UAE - Control List (Banned/Restricted Substances)	No (styrene; 2-ethylhexyl methacrylate; 1,4-butanediol vinyl ether; alkanes, C11-C13-iso-; aromatic 150; diethylene glycol; cobalt neodecanoate; trimethylhydroquinone)
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	13/06/2024
Initial Date	30/05/2023

SDS Version Summary

Version	Date of Update	Sections Updated
2.11	13/06/2024	Toxicological information - Acute Health (inhaled), Toxicological information - Acute Health (skin), Toxicological information - Acute Health (swallowed), Toxicological information - Chronic Health, Hazards identification - Classification, Exposure controls / personal protection - Engineering Control, Ecological Information - Environmental, Firefighting measures - Fire Fighter (fire/explosion hazard), Firefighting measures - Fire Fighter (fire fighting), First Aid measures - First Aid (eye), First Aid measures - First Aid (inhaled), First Aid measures - First Aid (swallowed), Handling and storage - Handling Procedure, Composition / information on ingredients - Ingredients, Exposure controls / personal protection - Personal Protection (other), Accidental release measures - Spills (major), Handling and storage - Storage (storage requirement), Identification of the substance / mixture and of the company / undertaking - Supplier Information

Other information

Definitions and abbreviations

- PC - TWA: Permissible Concentration-Time Weighted Average
- PC - STEL: Permissible Concentration-Short Term Exposure Limit
- IARC: International Agency for Research on Cancer
- ACGIH: American Conference of Governmental Industrial Hygienists
- STEL: Short Term Exposure Limit
- TEEL: Temporary Emergency Exposure Limit,
- IDLH: Immediately Dangerous to Life or Health Concentrations
- ES: Exposure Standard
- OSF: Odour Safety Factor
- NOAEL: No Observed Adverse Effect Level
- LOAEL: Lowest Observed Adverse Effect Level
- TLV: Threshold Limit Value
- LOD: Limit Of Detection
- OTV: Odour Threshold Value
- BCF: BioConcentration Factors
- BEI: Biological Exposure Index
- DNEL: Derived No-Effect Level
- PNEC: Predicted no-effect concentration
- MARPOL: International Convention for the Prevention of Pollution from Ships
- IMSBC: International Maritime Solid Bulk Cargoes Code
- IGC: International Gas Carrier Code
- IBC: International Bulk Chemical Code
- AIIC: Australian Inventory of Industrial Chemicals
- DSL: Domestic Substances List
- NDSL: Non-Domestic Substances List
- IECSC: Inventory of Existing Chemical Substance in China
- EINECS: European INventory of Existing Commercial chemical Substances
- ELINCS: European List of Notified Chemical Substances
- NLP: No-Longer Polymers
- ENCS: Existing and New Chemical Substances Inventory
- KECI: Korea Existing Chemicals Inventory
- NZIoC: New Zealand Inventory of Chemicals
- PICCS: Philippine Inventory of Chemicals and Chemical Substances
- TSCA: Toxic Substances Control Act
- TCSI: Taiwan Chemical Substance Inventory
- INSQ: Inventario Nacional de Sustancias Químicas
- NCI: National Chemical Inventory
- FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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