



Special PCB Mixture

Novachem Pty Ltd

Version No: 1.1

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 22/12/2023

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S.GHS.AUS.EN

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	Special PCB Mixture
Synonyms	Not Available
Proper shipping name	OCTANES
Other means of identification	M-CRPCB1K1

Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses	For Laboratory Use Only
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	Novachem Pty Ltd	Novachem Pty Ltd
Address	25 Crissane Road, Heidelberg West Victoria 3081 Australia	25 Crissane Road, Heidelberg West Victoria 3081 Australia
Telephone	+61384151255	+61384151255
Fax	+61386250088	+61386250088
Website	www.novachem.com.au	www.novachem.com.au
Email	novachem@novachem.com.au	novachem@novachem.com.au

Emergency telephone number

Association / Organisation	Victorian Poisons Information Centre	Victorian Poisons Information Centre
Emergency telephone numbers	13 11 26	13 11 26
Other emergency telephone numbers	Not Available	Not Available

SECTION 2 Hazards identification

Classification of the substance or mixture

Poisons Schedule	Not Applicable
Classification [1]	Flammable Liquids Category 2, Acute Toxicity (Oral) Category 3, Aspiration Hazard Category 1, Skin Corrosion/Irritation Category 2, Serious Eye Damage/Eye Irritation Category 2B, Specific Target Organ Toxicity - Single Exposure (Narcotic Effects) Category 3, Carcinogenicity Category 1A, Specific Target Organ Toxicity - Repeated Exposure Category 2, Hazardous to the Aquatic Environment Acute Hazard Category 1, Hazardous to the Aquatic Environment Long-Term Hazard Category 1
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard pictogram(s)	
Signal word	Danger

Hazard statement(s)

H225	Highly flammable liquid and vapour.
H301	Toxic if swallowed.
H304	May be fatal if swallowed and enters airways.
H315	Causes skin irritation.

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H320	Causes eye irritation.
H336	May cause drowsiness or dizziness.
H350	May cause cancer.
H373	May cause damage to organs through prolonged or repeated exposure.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s) Prevention

P201	Obtain special instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P260	Do not breathe mist/vapours/spray.
P264	Wash all exposed external body areas thoroughly after handling.

Precautionary statement(s) Response

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor/physician/first aider.
P331	Do NOT induce vomiting. If more than 15 mins from Doctor, INDUCE VOMITING (if conscious).
P308+P313	IF exposed or concerned: Get medical advice/ attention.
P330	Rinse mouth.

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
540-84-1	>46.095237	<u>2,2,4-trimethylpentane</u>
35065-29-3	<7.686396	<u>2,2',3,4,4',5,5'-heptachlorobiphenyl</u>
35065-28-2	<7.686396	<u>2,2',3,4,4',5'-hexachlorobiphenyl</u>
35065-27-1	<7.686396	<u>2,2',4,4',5,5'-hexachlorobiphenyl</u>
37680-73-2	<7.686396	<u>2,2',4,5,5'-pentachlorobiphenyl</u>
35693-99-3	<7.686396	<u>2,2',5,5'-tetrachlorobiphenyl</u>
31508-00-6*	<7.686396	<u>PCB No. 118</u>
7012-37-5	<7.686396	<u>2,4,4'-trichlorobiphenyl</u>

Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L; * EU IOELVs available

SECTION 4 First aid measures

Description of first aid measures

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

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- ▶ Avoid giving alcohol.
- ▶ If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

For acute or short term repeated exposures to petroleum distillates or related hydrocarbons:

- ▶ Primary threat to life, from pure petroleum distillate ingestion and/or inhalation, is respiratory failure.
- ▶ Patients should be quickly evaluated for signs of respiratory distress (e.g. cyanosis, tachypnoea, intercostal retraction, obtundation) and given oxygen. Patients with inadequate tidal volumes or poor arterial blood gases (pO₂ 50 mm Hg) should be intubated.
- ▶ Arrhythmias complicate some hydrocarbon ingestion and/or inhalation and electrocardiographic evidence of myocardial injury has been reported; intravenous lines and cardiac monitors should be established in obviously symptomatic patients. The lungs excrete inhaled solvents, so that hyperventilation improves clearance.
- ▶ A chest x-ray should be taken immediately after stabilisation of breathing and circulation to document aspiration and detect the presence of pneumothorax.
- ▶ Epinephrine (adrenalin) is not recommended for treatment of bronchospasm because of potential myocardial sensitisation to catecholamines. Inhaled cardioselective bronchodilators (e.g. Alupent, Salbutamol) are the preferred agents, with aminophylline a second choice.
- ▶ Lavage is indicated in patients who require decontamination; ensure use of cuffed endotracheal tube in adult patients. [Ellenhorn and Barceloux: Medical Toxicology]

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.

Compare PCB treatment regime:

Presentation:

- Acute symptoms related to overexposure to the PCBs and dioxins (PCDDs and PCDFs) include irritation of the skin, eyes and mucous membranes and nausea, vomiting and myalgias.
- After a latency period which may be prolonged (up to several weeks or more), chloracne, porphyria cutanea tarda, hirsutism, or hyper-pigmentation may occur. Elevated levels of hepatic transaminases and blood lipids may be found. Polyneuropathies with sensory impairment and lower-extremity motor weakness may also occur.
- Useful laboratory studies might include glucose, electrolytes, BUN, creatinine, liver transaminase, and liver function tests, and uroporphyrins (where porphyria is suspected)

Treatment:

- Emergency and Supportive Measures: Treat skin, eye and respiratory irritation symptomatically
- There is no specific antidote
- Decontamination: 1. Inhalation; remove victims from exposure and give supplemental oxygen if available. 2. Eyes and Skin: remove contaminated clothing and wash affected skin with copious soap and water; irrigate exposed eyes with copious tepid water or saline. 3. Ingestion; (a) Prehospital: Administer activated charcoal if available. Ipecac-induced vomiting may be useful for initial treatment at the scene if it can be given within a few minutes exposure (b) Hospital: Administer activated charcoal. Gastric emptying is not necessary if activated charcoal can be given promptly.
- Enhanced elimination: There is no known role for these procedures.

POISONING and DRUG OVERDOSE, Californian Poison Control System Ed. Kent R Olson; 3rd Edition

If large amounts are ingested, gastric lavage is suggested. In the case of splashes in the eyes, a petrolatum-based ophthalmic ointment may be applied to the eye to relieve the irritating effects of PCBs.

If electrical equipment arcs over, PCB dielectric fluids may decompose to produce hydrogen chloride (HCl), a respiratory irritant. [Monsanto]

Preplacement and annual medical examinations of workers, with emphasis on liver function, skin condition, reproductive history, are recommended.[ILO]

SECTION 5 Firefighting 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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Advice for firefighters

Fire Fighting	<ul style="list-style-type: none"> ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear breathing apparatus plus protective gloves in the event of a fire. ▶ Prevent, by any means available, spillage from entering drains or water courses. ▶ Use fire fighting procedures suitable for surrounding area.
Fire/Explosion Hazard	<ul style="list-style-type: none"> ▶ 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. <p>Combustion products include: carbon dioxide (CO₂) hydrogen chloride phosgene other pyrolysis products typical of burning organic material.</p> <p>Contains low boiling substance: Closed containers may rupture due to pressure buildup under fire conditions. PCBs decompose on heating to produce acrid black soot and toxic fumes of aldehydes, hydrogen chlorides (HCl), chlorides and extremely toxic polychlorinated dibenzofurans (PCDF) and polychlorinated dibenzodioxin (PCDD).</p> <p>Other halogenated analogues may produce corresponding decomposition products. May emit poisonous fumes.</p>
HAZCHEM	3YE

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

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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.
Major Spills	<p>Environmental hazard - contain spillage.</p> <ul style="list-style-type: none"> ▶ Clear area of personnel and move upwind. ▶ Alert Fire Brigade and tell them location and nature of hazard. ▶ Wear full body protective clothing with breathing apparatus. ▶ Prevent, by all means available, spillage from entering drains or water courses.

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. <p>Contains low boiling substance:</p> <p>Storage in sealed containers may result in pressure buildup causing violent rupture of containers not rated appropriately.</p> <ul style="list-style-type: none"> ▶ Check for bulging containers. ▶ Vent periodically ▶ Always release caps or seals slowly to ensure slow dissipation of vapours <p>· Electrostatic discharge may be generated during pumping - this may result in fire.</p> <p>· Ensure electrical continuity by bonding and grounding (earthing) all equipment.</p> <p>· Restrict line velocity during pumping in order to avoid generation of electrostatic discharge (<=1 m/sec until fill pipe submerged to twice its diameter, then <= 7 m/sec).</p> <p>· Avoid splash filling.</p> <ul style="list-style-type: none"> ▶ DO NOT allow clothing wet with material to stay in contact with skin
Other information	<ul style="list-style-type: none"> ▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry, well-ventilated area. ▶ Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	<ul style="list-style-type: none"> ▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. ▶ Polyliner drum. ▶ Packing as recommended by manufacturer. <p>For low viscosity materials</p> <ul style="list-style-type: none"> ▶ Drums and jerricans must be of the non-removable head type. ▶ Where a can is to be used as an inner package, the can must have a screwed enclosure. <p>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):</p> <ul style="list-style-type: none"> ▶ Removable head packaging; ▶ Cans with friction closures and ▶ low pressure tubes and cartridges <p>may be used.</p>
Storage incompatibility	<p>Low molecular weight alkanes are a type of chemical compounds that can be found in gases or liquids. These alkanes:</p> <ul style="list-style-type: none"> ▶ Can cause a dangerous reaction with strong oxidizers, chlorine, chlorine dioxide, and dioxygenyl tetrafluoroborate when there is oxygen and heat present. ▶ Are incompatible with halogens. ▶ Can create static charges due to their low conductivity, leading to an accumulation of static charge. ▶ Avoid reaction with oxidising agents <p>n-Octane/ iso-octane:</p> <ul style="list-style-type: none"> ▶ reacts violently with strong oxidisers, dinitrogen tetraoxide ▶ is incompatible with sulfuric acid, nitric acid, caustics, aliphatic amines, isocyanates ▶ attacks some plastics, rubber and coatings ▶ may generate electrostatic charges on agitation or flow, due to low conductivity.

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

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Ingredient	TEEL-1	TEEL-2	TEEL-3
2,2,4-trimethylpentane	230 ppm	830 ppm	5000* ppm

Ingredient	Original IDLH	Revised IDLH
2,2,4-trimethylpentane	Not Available	Not Available
2,2',3,4,4',5,5'-heptachlorobiphenyl	Not Available	Not Available
2,2',3,4,4',5'-hexachlorobiphenyl	Not Available	Not Available
2,2',4,4',5,5'-hexachlorobiphenyl	Not Available	Not Available
2,2',4,5,5'-pentachlorobiphenyl	Not Available	Not Available
2,2',5,5'-tetrachlorobiphenyl	Not Available	Not Available
PCB No. 118	Not Available	Not Available
2,4,4'-trichlorobiphenyl	Not Available	Not Available


Occupational Exposure Banding

Ingredient	Occupational Exposure Band Rating	Occupational Exposure Band Limit
2,2,4-trimethylpentane	E	≤ 0.1 ppm
2,2',3,4,4',5,5'-heptachlorobiphenyl	E	≤ 0.01 mg/m ³
2,2',3,4,4',5'-hexachlorobiphenyl	E	≤ 0.01 mg/m ³
2,2',4,4',5,5'-hexachlorobiphenyl	E	≤ 0.01 mg/m ³
2,2',4,5,5'-pentachlorobiphenyl	E	≤ 0.01 mg/m ³
2,2',5,5'-tetrachlorobiphenyl	E	≤ 0.01 mg/m ³
PCB No. 118	E	≤ 0.1 ppm
2,4,4'-trichlorobiphenyl	E	≤ 0.01 mg/m ³

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.</p> <p>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.</p> <p>CARE: Use of a quantity of this material in confined space or poorly ventilated area, where rapid build up of concentrated atmosphere may occur, could require increased ventilation and/or protective gear</p>
Individual protection measures, such as personal protective equipment	
Eye and face protection	<ul style="list-style-type: none"> ▶ 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	<ul style="list-style-type: none"> ▶ Wear chemical protective gloves, e.g. PVC. ▶ Wear safety footwear or safety gumboots, e.g. Rubber <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.</p> <ul style="list-style-type: none"> ▶ Neoprene rubber gloves
Body protection	See Other protection below
Other protection	<ul style="list-style-type: none"> ▶ Employees working with confirmed human carcinogens should be provided with, and be required to wear, clean, full body protective clothing (smocks, coveralls, or long-sleeved shirt and pants), shoe covers and gloves prior to entering the regulated area. [AS/NZS ISO 6529:2006 or national equivalent] ▶ Employees engaged in handling operations involving carcinogens should be provided with, and required to wear and use half-face filter-type respirators with filters for dusts, mists and fumes, or air purifying canisters or cartridges. A respirator affording higher levels of protection may be substituted. [AS/NZS 1715 or national equivalent] ▶ 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.

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- Prior to removing protective garments the employee should undergo decontamination and be required to shower upon removal of the garments and hood.

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
NITRILE	A
NEOPRENE	B
PVA	B
NATURAL RUBBER	C

* 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.

Respiratory protection

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

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection factor	Maximum gas/vapour concentration present in air p.p.m. (by volume)	Half-face Respirator	Full-Face Respirator
up to 10	1000	A-AUS / Class1	-
up to 50	1000	-	A-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	A-2
up to 100	10000	-	A-3
100+			Airline**

* - Continuous Flow ** - Continuous-flow or positive pressure demand
 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 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	Not Available		
Physical state	Liquid	Relative density (Water = 1)	0.7
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	417.78
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	-107.45	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	99.24	Molecular weight (g/mol)	Not Available
Flash point (°C)	4.5	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	4.7	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1.1	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	5.99	Gas group	Not Available
Solubility in water	Not Available	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 Stability and reactivity

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Reactivity	See section 7
Chemical stability	<ul style="list-style-type: none"> ▶ Unstable in the presence of incompatible materials. ▶ Product is considered stable. ▶ Hazardous polymerisation will not occur.
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	<p>The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.</p> <p>Inhalation of 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>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>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>Nerve damage can be caused by some non-ring hydrocarbons. Symptoms are temporary, and include weakness, tremors, increased saliva, some convulsions, excessive tears with discolouration and inco-ordination lasting up to 24 hours.</p> <p>Material is highly volatile and may quickly form a concentrated atmosphere in confined or unventilated areas. The vapour may displace and replace air in breathing zone, acting as a simple asphyxiant. This may happen with little warning of overexposure.</p> <p>The inhalation of dioxins may produce respiratory tract irritation, headache, dizziness, nausea and vomiting, fatigue, sleep difficulties, sexual dysfunction, and intolerance to cold. Muscular pains and weakness may be present as well as behavioural disturbances.</p> <p>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual.</p>		
Ingestion	<p>Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual.</p> <p>Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733)</p> <p>Isoparaffinic hydrocarbons cause temporary lethargy, weakness, inco-ordination and diarrhoea.</p> <p>Dioxin TCDD has been associated with a range of toxic effects. These include loss of body fat, inflammation of the eyelids, kidney damage, depression, loss of hair and nails, anaemia, decreased cholesterol and increased triglycerides, and degeneration of the thymus glands.</p> <p>Not a likely route of entry into the body in commercial or industrial environments. The liquid may produce considerable gastrointestinal discomfort and be harmful or toxic if swallowed.</p>		
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>Skin exposure to isoparaffins may produce slight to moderate irritation in animals and humans. Rare sensitisation reactions in humans have occurred.</p> <p>Toxic effects may result from skin absorption</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>Skin absorption of TCDD may result in redness and swelling, followed by acne.</p> <p>Exposure to the material may result in a skin inflammation called chloracne. This is characterised by white- and blackheads, keratin cysts, spots, excessive discolouration.</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>Exposure limits with 'skin' notation indicate that vapour and liquid may be absorbed through intact skin. Absorption by skin may readily exceed vapour inhalation exposure.</p>		
Eye	<p>This material can cause eye irritation and damage in some persons.</p> <p>Instillation of isoparaffins into rabbit eyes produces only slight irritation.</p> <p>Application of dioxins to the eye may produce irritation, inflammation of eyelids and conjunctiva, and irritation of other mucous membranes.</p>		
Chronic	<p>There is sufficient evidence to suggest that this material directly causes cancer in humans.</p> <p>Harmful: danger of serious damage to health by prolonged exposure through inhalation, in contact with skin and if swallowed.</p> <p>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.</p> <p>Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.</p> <p>Exposure to PHAHs, including TCDD, can result in acne, fatigue, decreased libido, sleep trouble, loss of appetite and weight and sensory dysfunction. Skin changes are also possible including pigmentation disorders and excess hair growth.</p> <p>Exposure to polychlorinated biphenyls (PCBs) over a long time can cause eczema and internal effects; various systems may be affected. On the skin, there may be thickening, swelling of the eyelids, feet and hands, itchy red eruptions, discolouration of nails and changes in hair follicles, hair loss, acne, eye discharge, and discolouration of the oral cavity.</p>		
Special PCB Mixture	<table border="1" style="width: 100%;"> <tr> <td style="text-align: center;">TOXICITY</td> <td style="text-align: center;">IRRITATION</td> </tr> </table>	TOXICITY	IRRITATION
TOXICITY	IRRITATION		

Special PCB Mixture

	Not Available	Not Available
2,2,4-trimethylpentane	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation(Rat) LC50: >33.52 mg/l4h ^[1]	Skin: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >5000 mg/kg ^[1]	
2,2',3,4,4',5,5'-heptachlorobiphenyl	TOXICITY	IRRITATION
	Not Available	Not Available
2,2',3,4,4',5'-hexachlorobiphenyl	TOXICITY	IRRITATION
	Not Available	Not Available
2,2',4,4',5,5'-hexachlorobiphenyl	TOXICITY	IRRITATION
	Not Available	Not Available
2,2',4,5,5'-pentachlorobiphenyl	TOXICITY	IRRITATION
	Not Available	Not Available
2,2',5,5'-tetrachlorobiphenyl	TOXICITY	IRRITATION
	Not Available	Not Available
PCB No. 118	TOXICITY	IRRITATION
	Not Available	Not Available
2,4,4'-trichlorobiphenyl	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	

2,2,4-TRIMETHYLPENTANE	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.
2,2',3,4,4',5'-HEXACHLOROBIPHENYL	WARNING: Polychlorinated biphenyls [1336-36-3] in general and [11097-69-1] in particular are classified by IARC as Group 2A - Probably carcinogenic to humans. Use strict occupational hygiene practices to minimize all personal contact.
2,2',5,5'-TETRACHLOROBIPHENYL	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.
Special PCB Mixture & 2,4,4'-TRICHLOROBIPHENYL	Activation of the aryl hydrocarbon receptor (AhR) may lead to certain toxic responses. The "his" receptor has been shown to regulate xenobiotic-metabolising enzymes, such as cytochrome c. Toxicity results from two different ways of receptor signalling. The first is a side effect of the adaptive response, in which the induction of metabolising enzymes results in the production of toxic metabolites. The second results from changes in global gene transcription, beyond those observed in the "AhR gene group".
Special PCB Mixture & 2,2,4-TRIMETHYLPENTANE	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.
Special PCB Mixture & 2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL & 2,2',3,4,4',5'-HEXACHLOROBIPHENYL & 2,2',4,4',5,5'-	Side-reactions during manufacture of the parent compound may result in the production of trace amounts of polyhalogenated aromatic hydrocarbon(s). Halogenated phenols, and especially their alkali salts, can condense above 300 deg. Polyhalogenated aromatic hydrocarbons (PHAHs) can cause effects on hormones and mimic thyroid hormone. Acne, discharge in the eye, eyelid swellings and visual disturbances may occur.

Special PCB Mixture

<p>HEXACHLOROBIPHENYL & 2,2',4,5,5'-PENTACHLOROBIPHENYL & 2,2',5,5'-TETRACHLOROBIPHENYL & 2,4,4'-TRICHLOROBIPHENYL</p>	
<p>2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL & 2,2',3,4,4',5'-HEXACHLOROBIPHENYL & 2,2',4,4',5,5'-HEXACHLOROBIPHENYL & 2,2',4,5,5'-PENTACHLOROBIPHENYL & 2,2',5,5'-TETRACHLOROBIPHENYL & 2,4,4'-TRICHLOROBIPHENYL</p>	<p>No significant acute toxicological data identified in literature search.</p> <p>WARNING: This substance has been classified by the IARC as Group 2A: Probably Carcinogenic to Humans.</p>
<p>2,2',3,4,4',5,5'-HEPTACHLOROBIPHENYL & 2,2',4,4',5,5'-HEXACHLOROBIPHENYL & 2,2',4,5,5'-PENTACHLOROBIPHENYL & 2,2',5,5'-TETRACHLOROBIPHENYL & 2,4,4'-TRICHLOROBIPHENYL</p>	<p>WARNING: Polychlorinated biphenyls [CAS RN: 1336-36-3] in general and [CAS RN: 11097-69-1] in particular, are classified by IARC as Group 2A - Probably Carcinogenic to humans Use strict occupational hygiene practices to minimise all personal contact.</p>

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

Special PCB Mixture	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
2,2,4-trimethylpentane	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	0.11mg/l	2
	BCF	672h	Fish	440-580	7
	EC50	48h	Crustacea	0.4mg/l	2
2,2',3,4,4',5,5'-heptachlorobiphenyl	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	1176h	Fish	0.025mg/l	4
2,2',3,4,4',5'-hexachlorobiphenyl	Endpoint	Test Duration (hr)	Species	Value	Source
	NOEC(ECx)	1176h	Fish	0.025mg/l	4
2,2',4,4',5,5'-hexachlorobiphenyl	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>0.0013mg/l	4
	NOEC(ECx)	1176h	Fish	0.025mg/l	4
2,2',4,5,5'-pentachlorobiphenyl	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>0.01mg/l	4
	NOEC(ECx)	1176h	Fish	0.025mg/l	4
2,2',5,5'-tetrachlorobiphenyl	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	>0.03mg/l	4
	NOEC(ECx)	1176h	Fish	0.025mg/l	4

Continued...

Special PCB Mixture

PCB No. 118	Endpoint	Test Duration (hr)	Species	Value	Source
		NOEC(ECx)	336h	Fish	0.045mg/L

2,4,4'-trichlorobiphenyl	Endpoint	Test Duration (hr)	Species	Value	Source
		LC50	96h	Fish	>0.16mg/l

Legend: *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 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*

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

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.

When released in the environment, alkanes don't undergo rapid biodegradation, because they have no functional groups (like hydroxyl or carbonyl) that are needed by most organisms in order to metabolize the compound.

However, some bacteria can metabolise some alkanes (especially those linear and short), by oxidizing the terminal carbon atom. The product is an alcohol, that could be next oxidised to an aldehyde, and finally to a carboxylic acid. The resulting fatty acid could be metabolised through the fatty acid degradation pathway.

Environmental Fate: n-Octane may be released into the environment through various waste streams as a result of its production and use in petroleum and gasoline products.

Terrestrial Fate: If released to soil, n-octane will have no mobility and will volatilize from moist and dry soil based upon its physico-chemical properties. However, volatilization may be attenuated due to its adsorption potential onto soil. Study shows that n-octane is capable of undergoing biodegradation under aerobic conditions.

90dioxin

For Polychlorinated Biphenyls (PCBs):

Environmental Limits: Limit for Marine Water: 0.004 ug/L (equals 0.000004 mg/L). Classification of waste materials contaminated by PCB's are - PCB Materials: PCB content greater than 10%, Scheduled Wastes: PCB content greater than 0.005% = 50 mg/kg or 50 ppm; Non Scheduled Wastes: PCB content greater than 0.0002% = 2 mg/kg or 2ppm; PCB Free Wastes: PCB content less than 0.0002% = 2 mg/kg or 2 ppm.

Environmental Fate: Most PCBs are volatile enough to cycle between the air, water, and soil at environmental temperatures, and atmospheric transport is the most important mechanism for the global movement. Biodegradation in the environment is slow, occurring under both aerobic and anaerobic conditions.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
2,2,4-trimethylpentane	HIGH	HIGH
2,2',3,4,4',5,5'-heptachlorobiphenyl	HIGH	HIGH
2,2',3,4,4',5'-hexachlorobiphenyl	HIGH	HIGH
2,2',4,4',5,5'-hexachlorobiphenyl	HIGH	HIGH
2,2',4,5,5'-pentachlorobiphenyl	HIGH	HIGH
2,2',5,5'-tetrachlorobiphenyl	HIGH	HIGH
PCB No. 118	HIGH	HIGH
2,4,4'-trichlorobiphenyl	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation
2,2,4-trimethylpentane	MEDIUM (BCF = 650)
2,2',3,4,4',5,5'-heptachlorobiphenyl	LOW (LogKOW = 8.2685)
2,2',3,4,4',5'-hexachlorobiphenyl	LOW (LogKOW = 7.624)
2,2',4,4',5,5'-hexachlorobiphenyl	LOW (LogKOW = 7.624)
2,2',4,5,5'-pentachlorobiphenyl	HIGH (LogKOW = 6.9795)
2,2',5,5'-tetrachlorobiphenyl	HIGH (LogKOW = 6.335)
PCB No. 118	HIGH (LogKOW = 6.9795)
2,4,4'-trichlorobiphenyl	HIGH (LogKOW = 5.6905)

Mobility in soil

Ingredient	Mobility
2,2,4-trimethylpentane	LOW (KOC = 275.5)
2,2',3,4,4',5,5'-heptachlorobiphenyl	LOW (KOC = 206800)
2,2',3,4,4',5'-hexachlorobiphenyl	LOW (KOC = 125100)
2,2',4,4',5,5'-hexachlorobiphenyl	LOW (KOC = 122500)
2,2',4,5,5'-pentachlorobiphenyl	LOW (KOC = 74100)
2,2',5,5'-tetrachlorobiphenyl	LOW (KOC = 44820)
PCB No. 118	LOW (KOC = 74100)
2,4,4'-trichlorobiphenyl	LOW (KOC = 27110)

Special PCB Mixture



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.</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. ▶ Due to their environmental persistence and potential health hazards, PCBs, PBBs, dioxins and their derivatives or congeners (including chlorinated diphenyl ethers), cannot be disposed of in landfills or dumped at sea. ▶ Environmentally acceptable method of disposal include high temperature incineration. However this option is costly and uncertain. ▶ Other acceptable disposal technologies include base-catalysed dechlorination in the BCD (Base-Catalyzed Decomposition) Process. ▶ 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	
HAZCHEM	3YE

Land transport (ADG)

14.1. UN number or ID number	1262	
14.2. UN proper shipping name	OCTANES	
14.3. Transport hazard class(es)	Class	3
	Subsidiary Hazard	Not Applicable
14.4. Packing group	II	
14.5. Environmental hazard	Environmentally hazardous	
14.6. Special precautions for user	Special provisions	Not Applicable
	Limited quantity	1 L

Air transport (ICAO-IATA / DGR)

14.1. UN number	1262	
14.2. UN proper shipping name	Octanes	
14.3. Transport hazard class(es)	ICAO/IATA Class	3
	ICAO / IATA Subsidiary Hazard	Not Applicable
	ERG Code	3H
14.4. Packing group	II	
14.5. Environmental hazard	Environmentally hazardous	
14.6. Special precautions for user	Special provisions	Not Applicable
	Cargo Only Packing Instructions	364

Special PCB Mixture

Cargo Only Maximum Qty / Pack	60 L
Passenger and Cargo Packing Instructions	353
Passenger and Cargo Maximum Qty / Pack	5 L
Passenger and Cargo Limited Quantity Packing Instructions	Y341
Passenger and Cargo Limited Maximum Qty / Pack	1 L

Sea transport (IMDG-Code / GGVSee)

14.1. UN number	1262	
14.2. UN proper shipping name	OCTANES	
14.3. Transport hazard class(es)	IMDG Class	3
	IMDG Subsidiary Hazard	Not Applicable
14.4. Packing group	II	
14.5 Environmental hazard	Marine Pollutant	
14.6. Special precautions for user	EMS Number	F-E , S-E
	Special provisions	Not Applicable
	Limited Quantities	1 L

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
2,2,4-trimethylpentane	Not Available
2,2',3,4,4',5,5'-heptachlorobiphenyl	Not Available
2,2',3,4,4',5'-hexachlorobiphenyl	Not Available
2,2',4,4',5,5'-hexachlorobiphenyl	Not Available
2,2',4,5,5'-pentachlorobiphenyl	Not Available
2,2',5,5'-tetrachlorobiphenyl	Not Available
PCB No. 118	Not Available
2,4,4'-trichlorobiphenyl	Not Available

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
2,2,4-trimethylpentane	Not Available
2,2',3,4,4',5,5'-heptachlorobiphenyl	Not Available
2,2',3,4,4',5'-hexachlorobiphenyl	Not Available
2,2',4,4',5,5'-hexachlorobiphenyl	Not Available
2,2',4,5,5'-pentachlorobiphenyl	Not Available
2,2',5,5'-tetrachlorobiphenyl	Not Available
PCB No. 118	Not Available
2,4,4'-trichlorobiphenyl	Not Available

SECTION 15 Regulatory information

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

2,2,4-trimethylpentane is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
 Australian Inventory of Industrial Chemicals (AIIC)

2,2',3,4,4',5,5'-heptachlorobiphenyl is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
 International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
 Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination
 Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex C: Unintentional Production
 United Nations List of Prior Informed Consent Chemicals

2,2',3,4,4',5'-hexachlorobiphenyl is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List
 International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)
 Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination

Special PCB Mixture

Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex C: Unintentional Production

United Nations List of Prior Informed Consent Chemicals

2,2',4,4',5,5'-hexachlorobiphenyl is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination

Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex C: Unintentional Production

United Nations List of Prior Informed Consent Chemicals

2,2',4,5,5'-pentachlorobiphenyl is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination

Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex C: Unintentional Production

United Nations List of Prior Informed Consent Chemicals

2,2',5,5'-tetrachlorobiphenyl is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination

Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex C: Unintentional Production

United Nations List of Prior Informed Consent Chemicals

PCB No. 118 is found on the following regulatory lists

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 1: Carcinogenic to humans

Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination

Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex C: Unintentional Production

United Nations List of Prior Informed Consent Chemicals

2,4,4'-trichlorobiphenyl is found on the following regulatory lists

Chemical Footprint Project - Chemicals of High Concern List

International WHO List of Proposed Occupational Exposure Limit (OEL) Values for Manufactured Nanomaterials (MNMS)

Stockholm Convention on Persistent Organic Pollutants - Annex A - Elimination

Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex C: Unintentional Production

United Nations List of Prior Informed Consent Chemicals

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIIIC / Australia Non-Industrial Use	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
Canada - DSL	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
Canada - NDLS	No (2,2,4-trimethylpentane; 2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
China - IECSC	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
Europe - EINEC / ELINCS / NLP	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118)
Japan - ENCS	Yes
Korea - KECI	Yes
New Zealand - NZIoC	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
Philippines - PICCS	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
USA - TSCA	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
Taiwan - TCSI	Yes
Mexico - INSQ	No (2,2',3,4,4',5,5'-heptachlorobiphenyl; 2,2',3,4,4',5'-hexachlorobiphenyl; 2,2',4,4',5,5'-hexachlorobiphenyl; 2,2',4,5,5'-pentachlorobiphenyl; 2,2',5,5'-tetrachlorobiphenyl; PCB No. 118; 2,4,4'-trichlorobiphenyl)
Vietnam - NCI	Yes
Russia - FBEPH	Yes
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.

SECTION 16 Other information

Revision Date	22/12/2023
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Continued...

Special PCB Mixture**Initial Date** | 22/12/2023**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
- ▶ 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

- ▶ 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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