



Standard SA Base Ply

Impermitek

Version No: 2.2

Safety Data Sheet according to WHMIS 2023 requirements

Initial Date: 03/10/2023

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Print Date: 05/12/2025

S.GHS.CAN.EN

SECTION 1 Identification

Product Identifier

Product name	Standard SA Base Ply
Synonyms	Not Available
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Bituminous Waterproofing Membrane
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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	Non hazardous
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Label elements

Hazard pictogram(s)	Not Applicable
Signal word	Not Applicable

Hazard statement(s)

Not Applicable

Physical and Health hazard(s) not otherwise classified

Not Applicable

Precautionary statement(s) Prevention

Not Applicable

Precautionary statement(s) Response

Not Applicable

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

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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
8052-42-4	75-90	<u>residues, petroleum, thermal cracked vacuum</u>

SECTION 4 First-aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: - Wash out immediately with water. - If irritation continues, seek medical attention. - Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. For THERMAL burns: Do NOT remove contact lens - Lay victim down, on stretcher if available and pad BOTH eyes, make sure dressing does not press on the injured eye by placing thick pads under dressing, above and below the eye. - Seek urgent medical assistance, or transport to hospital.
Skin Contact	If skin or hair contact occurs: - Flush skin and hair with running water (and soap if available). - Seek medical attention in event of irritation. In case of burns: - Immediately apply cold water to burn either by immersion or wrapping with saturated clean cloth. DO NOT remove or cut away clothing over burnt areas. DO NOT pull away clothing which has adhered to the skin as this can cause further injury. DO NOT break blister or remove solidified material. - Quickly cover wound with dressing or clean cloth to help prevent infection and to ease pain. - For large burns, sheets, towels or pillow slips are ideal; leave holes for eyes, nose and mouth. DO NOT apply ointments, oils, butter, etc. to a burn under any circumstances. - Water may be given in small quantities if the person is conscious. - Alcohol is not to be given under any circumstances. - Reassure. - Treat for shock by keeping the person warm and in a lying position. - Seek medical aid and advise medical personnel in advance of the cause and extent of the injury and the estimated time of arrival of the patient. - Immediately drench burn area in cold running water. - If hot bitumen adheres to the skin, DO NOT attempt to remove it (it acts as a sterile dressing). - For burns to the head and neck and trunk, apply cold wet towels to the burn area, and change frequently to maintain cooling. - Cooling should be maintained for no longer than thirty minutes. - When hot bitumen completely encircles a limb, it may have a tourniquet effect and should be split as it cools. - Transport to hospital or doctor. For thermal burns: - Decontaminate area around burn. - Consider the use of cold packs and topical antibiotics. For first-degree burns (affecting top layer of skin) - Hold burned skin under cool (not cold) running water or immerse in cool water until pain subsides. - Use compresses if running water is not available. - Cover with sterile non-adhesive bandage or clean cloth. - Do NOT apply butter or ointments; this may cause infection. - Give over-the counter pain relievers if pain increases or swelling, redness, fever occur. For second-degree burns (affecting top two layers of skin) - Cool the burn by immerse in cold running water for 10-15 minutes. - Use compresses if running water is not available. - Do NOT apply ice as this may lower body temperature and cause further damage. - Do NOT break blisters or apply butter or ointments; this may cause infection. - Protect burn by cover loosely with sterile, nonstick bandage and secure in place with gauze or tape. To prevent shock: (unless the person has a head, neck, or leg injury, or it would cause discomfort): - Lay the person flat. - Elevate feet about 12 inches. - Elevate burn area above heart level, if possible. - Cover the person with coat or blanket. - Seek medical assistance. For third-degree burns Seek immediate medical or emergency assistance. In the mean time: - Protect burn area cover loosely with sterile, nonstick bandage or, for large areas, a sheet or other material that will not leave lint in wound. - Separate burned toes and fingers with dry, sterile dressings. - Do not soak burn in water or apply ointments or butter; this may cause infection. - To prevent shock see above. - For an airway burn, do not place pillow under the person's head when the person is lying down. This can close the airway. - Have a person with a facial burn sit up. - Check pulse and breathing to monitor for shock until emergency help arrives.
Inhalation	- If fumes, aerosols or combustion products are inhaled remove from contaminated area. - Other measures are usually unnecessary.
Ingestion	- Immediately give a glass of water. - First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

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Burns : No attempt should be made to remove the bitumen (it acts as a sterile dressing). Cover the bitumen with tulle gras and leave for two days when any detached bitumen can be removed. Re-dress and leave for a further week. If necessary refer to a burns unit. [Manufacturer]

SECTION 5 Fire-fighting measures

Extinguishing media

- Do NOT direct a solid stream of water or foam into burning molten material; this may cause spattering and spread the fire.
- 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. - Wear breathing apparatus plus protective gloves. - Prevent, by any means available, spillage from entering drains or water courses. - Use water delivered as a fine spray to control fire and cool adjacent area.
Fire/Explosion Hazard	- Combustible solid which burns but propagates flame with difficulty; it is estimated that most organic dusts are combustible (circa 70%) - according to the circumstances under which the combustion process occurs, such materials may cause fires and / or dust explosions. - Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions). - Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust (420 micron or less) may burn rapidly and fiercely if ignited - particles exceeding this limit will generally not form flammable dust clouds; once initiated, however, larger particles up to 1400 microns diameter will contribute to the propagation of an explosion. Combustion products include: carbon monoxide (CO) carbon dioxide (CO2) nitrogen oxides (NOx) sulfur oxides (SOx) sulfur dioxide (SO2) other pyrolysis products typical of burning organic material. May emit clouds of acrid smoke NOTE: Burns with intense heat. Produces melting, flowing, burning liquid and dense acrid black smoke. CARE: Contamination of heated / molten liquid with water may cause violent steam explosion, with scattering of hot contents.

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	- Clean up waste regularly and abnormal spills immediately. - Avoid breathing dust and contact with skin and eyes. - Wear protective clothing, gloves, safety glasses and dust respirator. - Use dry clean up procedures and avoid generating dust.
Major Spills	- Clear area of personnel and move upwind. - Alert Fire Brigade and tell them location and nature of hazard. - Control personal contact with the substance, by using protective equipment and dust respirator. - Prevent spillage from entering drains, sewers 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	Hydrogen sulfide (H2S or Sour Gas) may be present when loading and unloading transport vessels. Stay upwind and away from newly opened hatches and allow to vent thoroughly before handling material. Steam may be used to vent hatches. Keep all sources of ignition away from loading area. - The greatest potential for injury caused by molten materials occurs during purging of machinery (moulders, extruders etc.) - It is essential that workers in the immediate area of the machinery wear eye and skin protection (such as full face, safety glasses, heat resistant gloves, overalls and safety boots) as protection from thermal burns. - Fumes or vapours emitted from hot melted materials, during converting operations, may condense on overhead metal surfaces or exhaust ducts. The condensate may contain substances which are irritating or toxic. Avoid contact of that material with the skin. · Electrostatic discharge may be generated during pumping - this may result in fire. · Ensure electrical continuity by bonding and grounding (earthing) all equipment. · 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). · Avoid splash filling. - Limit all unnecessary personal contact. - Wear protective clothing when risk of exposure occurs. - Use in a well-ventilated area. - Avoid contact with incompatible materials. - Organic powders when finely divided over a range of concentrations regardless of particulate size or shape and suspended in air or some other oxidizing medium may form explosive dust-air mixtures and result in a fire or dust explosion (including secondary explosions)
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	▶ Minimise airborne dust and eliminate all ignition sources. Keep away from heat, hot surfaces, sparks, and flame. ▶ Establish good housekeeping practices. ▶ Remove dust accumulations on a regular basis by vacuuming or gentle sweeping to avoid creating dust clouds.
Other information	▶ Store in original containers. ▶ Keep containers securely sealed. ▶ Store in a cool, dry area protected from environmental extremes. ▶ Store away from incompatible materials and foodstuff containers.

Conditions for safe storage, including any incompatibilities

Suitable container	▶ Lined metal can, lined metal pail/ can. ▶ Plastic pail. ▶ Polyliner drum. ▶ Packing as recommended by manufacturer.
Storage incompatibility	Avoid contamination of water, foodstuffs, feed or seed. ▶ Avoid reaction with oxidising agents

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	residues, petroleum, thermal cracked vacuum	Asphalt (petroleum) fumes	5 mg/m3	10 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	residues, petroleum, thermal cracked vacuum	Coal dust: Bituminous (respirable fraction++)	0.9 mg/m3	2.7 mg/m3	Not Available	Not Available
Canada - Saskatchewan Occupational Health and Safety Regulations - Contamination Limits	residues, petroleum, thermal cracked vacuum	Asphalt (bitumen) fume, as benzene soluble aerosol (inhalable fraction++)	0.5 mg/m3	1.5 mg/m3	Not Available	Not Available
Canada - Manitoba Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Not Available	0.5 mg/m3	Not Available	Not Available	TLV® Basis: URT & eye irr; BEIp
Canada - Manitoba Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Not Available	0.9 mg/m3	Not Available	Not Available	TLV® Basis: Lung dam; pulm fibrosis
Canada - Prince Edward Island Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Asphalt (Bitumen) fumes, as benzene-soluble aerosol	0.5 mg/m3	Not Available	Not Available	TLV® Basis: URT & eye irr; BEIp
Canada - Prince Edward Island Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Coal dust - Bituminous or Lignite	0.9 mg/m3	Not Available	Not Available	TLV® Basis: Lung dam; pulm fibrosis
Canada - British Columbia Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Asphalt (Bitumen) fume, as benzene-soluble aerosol, Inhalable	0.5 mg/m3	Not Available	Not Available	IARC group 2A carcinogen - Bitumens, occupational exposure to oxidized bitumens and their emissions during road paving IARC group 2B carcinogen - Bitumens, occupational exposure to straight-run bitumens and their emissions during road paving
Canada - Ontario Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Respirable fraction)	3 mg/m3	Not Available	Not Available	(R) Respirable fraction: means that size fraction of the airborne particulate deposited in the gas-exchange region of the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has the cut point of 4 µm at 50 per cent collection efficiency.
Canada - Ontario Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Particles (Insoluble or Poorly Soluble) Not Otherwise Specified (PNOS) (Inhalable fraction)	10 mg/m3	Not Available	Not Available	(I) Inhalable fraction: means that size fraction of the airborne particulate deposited anywhere in the respiratory tract and collected during air sampling with a particle size-selective device that, (a) meets the ACGIH particle size-selective sampling criteria for airborne particulate matter; and (b) has

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Source	Ingredient	Material name	TWA	STEL	Peak	Notes
						the cut point of 100 µm at 50 per cent collection efficiency.
Canada - Alberta Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Coal dust (Respirable particulate); Bituminous	0.9 mg/m3	Not Available	Not Available	These limits come into effect on July 1, 2010
Canada - Alberta Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Bitumen (Asphalt fume)	5 mg/m3	Not Available	Not Available	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Alberta Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Asphalt (Petroleum; Bitumen) fume	5 mg/m3	Not Available	Not Available	3 - Occupational exposure limit is based on irritation effects and its adjustment to compensate for unusual work schedules is not required.
Canada - Northwest Territories Occupational Exposure Limits	residues, petroleum, thermal cracked vacuum	Asphalt (bitumen) fume, as benzene soluble aerosol (inhalable fraction)	0.5 mg/m3	1.5 mg/m3	Not Available	Not Available
Canada - Quebec Permissible Exposure Values for Airborne Contaminants	residues, petroleum, thermal cracked vacuum	Asphalt (petroleum) fumes	5 mg/m3	Not Available	Not Available	Not Available
Canada - Nova Scotia Occupational Exposure LimitsCanada	residues, petroleum, thermal cracked vacuum	Coal dust - Bituminous	0.9 mg/m3	Not Available	Not Available	TLV Basis: lung damage; pulmonary fibrosis
Canada - Nova Scotia Occupational Exposure LimitsCanada	residues, petroleum, thermal cracked vacuum	Asphalt (Bitumen; Petroleum) - Fume	0.5 mg/m3	Not Available	Not Available	TLV Basis: Upper respiratory tract & eye irritation. Measured as benzene-soluble aerosol. BEI-P

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. For molten materials: Provide mechanical ventilation; in general such ventilation should be provided at compounding/ converting areas and at fabricating/ filling work stations where the material is heated. Local exhaust ventilation should be used over and in the vicinity of machinery involved in handling the molten material. Keep dry!! Processing temperatures may be well above boiling point of water, so wet or damp material may cause a serious steam explosion if used in unvented equipment.
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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience.
Skin protection	See Hand protection below
Hands/feet protection	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. 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. ▶ When handling hot materials wear heat resistant, elbow length gloves. ▶ Rubber gloves are not recommended when handling hot objects, materials ▶ Protective gloves eg. Leather gloves or gloves with Leather facing ▶ DO NOT use solvent to clean the skin Experience indicates that the following polymers are suitable as glove materials for protection against undissolved, dry solids, where abrasive particles are not present. ▶ polychloroprene. ▶ nitrile rubber. ▶ butyl rubber.
Body protection	See Other protection below
Other protection	▶ When handling hot or molten liquids, wear trousers or overalls outside of boots, to avoid spills entering boots. ▶ Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapour exposure. ▶ CAUTION: Vapours may be irritating. No special equipment needed when handling small quantities. OTHERWISE: ▶ Overalls. ▶ Barrier cream. ▶ Eyewash unit.

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Respiratory protection

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

- Respirators may be necessary when engineering and administrative controls do not adequately prevent exposures.
- The decision to use respiratory protection should be based on professional judgment that takes into account toxicity information, exposure measurement data, and frequency and likelihood of the worker's exposure - ensure users are not subject to high thermal loads which may result in heat stress or distress due to personal protective equipment (powered, positive flow, full face apparatus may be an option).
- Published occupational exposure limits, where they exist, will assist in determining the adequacy of the selected respiratory protection. These may be government mandated or vendor recommended.
- Certified respirators will be useful for protecting workers from inhalation of particulates when properly selected and fit tested as part of a complete respiratory protection program.
- Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU)
- Use approved positive flow mask if significant quantities of dust becomes airborne.
- Try to avoid creating dust conditions.

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance/Colour	Black		
Physical state	Solid	Relative density (Water = 1)	1.02-1.08
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	300
pH (as supplied)	Not Available	Decomposition temperature (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Applicable
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	230	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Applicable
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available
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	Product is considered stable and hazardous polymerisation will not occur. ► Extremely high temperatures.
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

a) Acute Toxicity	Based on available data, the classification criteria are not met.
b) Skin Irritation/Corrosion	Based on available data, the classification criteria are not met.
c) Serious Eye Damage/Irritation	Based on available data, the classification criteria are not met.
d) Respiratory or Skin sensitisation	Based on available data, the classification criteria are not met.
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.

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j) Aspiration Hazard	Based on available data, the classification criteria are not met.
Inhaled	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting. Processing for an overly long time or processing at overly high temperatures may cause generation and release of highly irritating vapours, which irritate eyes, nose, throat, causing red itching eyes, coughing, sore throat. 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.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as 'harmful by ingestion'. This is because of the lack of corroborating animal or human evidence. Swallowing pieces of the bitumen may produce obstruction at the junction of the stomach and the intestine. This is due to accumulation in the stomach and formation of a stony concretion.
Skin Contact	The material is not thought to produce adverse health effects or skin irritation following contact (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Molten material is capable of causing burns. 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.
Eye	Although the material is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may cause transient discomfort characterised by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. Workers exposed to fumes of blown bitumens developed inflammation of the cornea and conjunctiva.
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course. Long-term exposure to bitumen or asphalt fumes, over extended periods, may cause central nervous system depression and liver and kidney changes. Chronic bitumen/asphalt poisoning may result in a decrease in the number of white and red blood cells. Prolonged contact with bitumens may produce irritation, inflammation, dermatitis, acne-like lesions, keratoses, melanosis and sensitivity to light. Animal testing for cancer-causing effects of bitumen was inconclusive, and no difference was found between the health of asphalt workers and of groups of controls in oil refineries. There has been concern that this material can cause cancer or mutations, but there is not enough data to make an assessment.

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	Not Available	Not Available
residues, petroleum, thermal cracked vacuum	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Eye: no adverse effect observed (not irritating) ^[1]
	Inhalation (Rat) LC50: >94.4 mg/L4h ^[2]	Skin: no adverse effect observed (not irritating) ^[1]
	Oral (Rat) LD50: >5000 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	

RESIDUES, PETROLEUM, THERMAL CRACKED VACUUM	There was no consistent evidence of an association between indicators of inhalation and/or dermal exposure to bitumen and lung cancer risk. A previous cohort study of European asphalt workers reported a slight increase in lung cancer mortality among workers exposed to bitumen fume. In the cohort study there was an association between lung cancer mortality and increasing average exposure to bitumen fume, but a similar association was not observed with increasing duration of exposure or with cumulative exposure. In an acute oral toxicity study, groups of fasted, Sprague-Dawley rats (5/sex) were given a single oral dose of Vacuum Residuum in corn oil at a dose of 20 mL/kg body weight and observed for 14 days. Clinical observations include: hypoactivity, diarrhea, dark brown and black anal region. The oral LD50 was determined to be greater than 5000 mg/kg body weight in males and females. In a dermal sensitisation study using Bitumen (undiluted), 20 young adult male Hartley albino guinea pigs were tested using the method of Buehler. Normal body weight gains were recorded for all animals during the study with the exception of weight losses during the last 4 days of the study for three animals. Dermal irritation ranged from very slight to well defined for erythema and very slight for edema during the sensitisation phase. The high sulfur levels in one sample may have attributed to the erythema. No dermal irritation was exhibited by either the test group or naive control animals following the challenge application with the undiluted test material. The NOAEL for systemic effects following inhalation was 103.9 mg/m3(172.5 mg/m3adjusted) based on the absence of any histopathological changes or alterations in clinical chemistry or haematology. The LOEC for local effects was 20.7 mg/m3 (34.4 mg/m3 adjusted), based on the effects on the nasal passages. The NOAEC was set at half the LOAEC, that is 10.4 mg/m3 total hydrocarbon concentration (17.2 mg/m3 adjusted) based on the minimal effects and the facts that in the 90-day study and the reproductive toxicity screening studies NOAECs of 20.1 mg/m3 (30.4 mg/m3 adjusted) and 30 mg/m3 were found, respectively. The LOEL for vacuum residuum was 200 mg/kg/day, based on skin irritation based on the absence of histopathological findings and the value of 200 mg/kg/d was taken forward to calculate the DNEL for dermal local effects. The NOEL for systemic effects was 1000 mg/kg, based on body weight effects. As there were no clinical or histopathological findings, the decreased body weight was considered to be secondary to the reduced food intake and the value of 2000 mg/kg/d was taken forward to calculate the DNEL for dermal systemic effects. Asphalt Fume Condensates were found capable of causing micronucleus formation in mammalian cells in vitro. The genotoxic potential appears to be similar for both types of asphalt condensate. Both condensates caused a similar dose-related increase in the frequency of micronucleated cells. The increase was statistically significant for all four concentrations tested. The results show that both types of roofing asphalt fume condensates caused a significant increase in the frequency of micronucleated cells. These findings indicate that both Type I and Type III roofing asphalt fumes are capable of causing principally cytogenetic damage by spindle apparatus in cultured mammalian cells. Under the restrictions of the micronucleus assay and the chosen target cells, roofing asphalt fume condensate is considered non mutagenic in immature bone marrow erythrocytes of rats. Bitumen fumes regenerated from bitumen fume condensate were not carcinogenic in rats with doses up to 103.9 mg/m3 for 2 years. No chronic carcinogenic inhalation study on bitumen has been performed. Results of studies performed on fumes from condensates of semi-blown bitumen have been used for ?read across?. The read across was based on the fact that the fumes of this material have been assessed and compared with fumes from straight-run paving bitumen and found to be comparable in composition and physical properties. Administration of the test material 'Distillates (Fischer-Tropsch)', heavy, C18-50 - branched, cyclic and linear' to male and female rats at dosages up to 1000 mg/kg/day had no effect on reproductive performance or gestation length and parturition of both the F0and F1parental generations. In addition, there were no test item-related effects on F1and F2litter parameters, postnatal survival, physical condition/mortality, or pup body weights. Vaginal patency of F1females and balanopreputial separation in F1males were unaffected by test item administration. Andrology parameters were unaffected by test item administration. Based on historical data, the proposed test material (worst case approach) is a liquid condensate collected from the headspace of a heated tank of Asphalt (CAS No 8052-42-4): A very complex combination of high molecular weight organic compounds containing a relatively high proportion of hydrocarbons having carbon numbers predominantly greater than C25 with high carbon-to-hydrogen ratios. It also contains
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	small amounts of various metals such as nickel, iron, or vanadium. It is obtained as the non-volatile residue from distillation of crude oil or by separation as the raffinate from a residual oil in a deasphalting or decarbonization process. *REACH Dossier 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. No significant acute toxicological data identified in literature search. WARNING: This substance has been classified by the IARC as Group 2B: Possibly Carcinogenic to Humans.		
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					
Standard SA Base Ply	Endpoint	Test Duration (hr)	Species	Value	Source
	Not Available	Not Available	Not Available	Not Available	Not Available
residues, petroleum, thermal cracked vacuum	Endpoint	Test Duration (hr)	Species	Value	Source
	EC50	72h	Algae or other aquatic plants	>1000mg/l	Not Available
	EC50(ECx)	72h	Algae or other aquatic plants	>1000mg/l	Not Available
	LC50	96h	Fish	>1000mg/l	Not Available
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					

For Bitumens / Asphalt: This family of hydrocarbon is expected to have similar boiling points, vapor pressures, log Kow values (>10), and water solubilities.

Environmental Fate: Bitumen / asphalts are grouped under one category due to limited environmental fate data. The toxicity of this group is not expected to vary significantly across members. Bitumen / asphalts are expected to distribute similarly in the environment because of their low volatility and limited water solubility.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
	No Data available for all ingredients	No Data available for all ingredients

Bioaccumulative potential

Ingredient	Bioaccumulation
	No Data available for all ingredients

Mobility in soil

Ingredient	Mobility
	No Data available for all ingredients

SECTION 13 Disposal considerations

Waste treatment methods	
Product / Packaging disposal	▶ 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.

SECTION 14 Transport information

Labels Required	
Marine Pollutant	NO

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

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

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

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
residues, petroleum, thermal cracked vacuum	Not Applicable

14.7.3. Transport in bulk in accordance with the IGC Code

Product name	Ship Type
residues, petroleum, thermal cracked vacuum	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.

residues, petroleum, thermal cracked vacuum is found on the following regulatory lists

Canada Categorization decisions for all DSL substances

Canada Domestic Substances List (DSL)

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 2B: Possibly carcinogenic to humans

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

Additional Regulatory Information

Not Applicable

National Inventory Status

National Inventory	Status
Australia - AIC / Australia Non-Industrial Use	Yes
Canada - DSL	Yes
Canada - NDSL	No (residues, petroleum, thermal cracked vacuum)
China - IECSC	Yes
Europe - EINEC / ELINCS / NLP	Yes
Japan - ENCS	Yes
Korea - KECI	Yes
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	Yes
Vietnam - NCI	Yes
Russia - FBEPH	Yes
UAE - Control List (Banned/Restricted Substances)	No (residues, petroleum, thermal cracked vacuum)
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	05/12/2025
Initial Date	03/10/2023

SDS Version Summary

Version	Date of Update	Sections Updated
1.2	05/12/2025	Physical and chemical properties - Appearance, Composition / information on ingredients - Ingredients, Identification of the substance / mixture and of the company / undertaking - Supplier Information, Name

Other information

Definitions and abbreviations

▸ PC - TWA: Permissible Concentration-Time Weighted Average

Standard SA Base Ply

- ▶ 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

The information contained in the Safety Data Sheet is based on our data available on the date of publication. This information is intended to aid the user in controlling the handling risks . It is not to be construed as a warranty or specification of the product quality. The information may not be or may not altogether be applicable to combinations of the product with other substances or to particular applications. The user is responsible for ensuring that appropriate precautions are taken and for satisfying themselves that the data are suitable and sufficient for the intended use of the product . In case of any unclarity we advise consulting the supplier or an expert.