

Permatex Undercoating Aerosol

ITW AAMTech

Chemwatch: **5068-42** Version No: **9.1.1.1**

Material Safety Data Sheet according to NOHSC and ADG requirements

Chemwatch Hazard Alert Code: 4

Issue Date: 09/09/2014
Print Date: 22/09/2015
Initial Date: Not Available
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SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Permatex Undercoating Aerosol
Synonyms	PX80072
Proper shipping name	AEROSOLS
Other means of identification	Not Available

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

Relevant identified	A U
uses	C

Application is by spray atomisation from a hand held aerosol pack Use according to manufacturer's directions. Coating.

Details of the supplier of the safety data sheet

Registered company name	ITW AAMTech	ITW AAMTech
Address	Unit 2/38 Trugood Drive, East Tamaki, Auckland 2013 New Zealand	1-9 Nina Link, Dandenong South 3175 VIC Australia
Telephone	+800 438 996	1800 177 989
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Website	www.aamtech.co.nz	www.aamtech.com.au
Email	info@aamtech.co.nz	info@aamtech.com.au

Emergency telephone number

Association / Organisation	Not Available	Not Available
Emergency telephone numbers	+800 2436 2255	1800 039 008
Other emergency telephone numbers	Not Available	+61 3 9573 3112

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS SUBSTANCE. DANGEROUS GOODS. According to the Criteria of NOHSC, and the ADG Code.

Poisons Schedule	Not Applicable		
	R20/21/22	Harmful by inhalation, in contact with skin and if swallowed.	
	R36/37/38	Irritating to eyes, respiratory system and skin.	
D'. Di [1]	R50/53	Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.	
Risk Phrases ^[1]	R44	Risk of explosion if heated under confinement.	
	R68/20/21/22	Harmful:possible risk of irreversible effects through inhalation, in contact with skin and if swallowed.	
	R12	Extremely flammable.	

Chemwatch: 5068-42 Page 2 of 15 Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex Legend:

Flammable Aerosol Category 1, Acute Toxicity (Oral) Category 4, Acute Toxicity (Dermal) Category 4, Acute Toxicity GHS Classification [1] (Inhalation) Category 4, Skin Corrosion/Irritation Category 2, Eye Irritation Category 2A, STOT - SE Category 2, STOT - SE (Resp. Irr.) Category 3, Acute Aquatic Hazard Category 1, Chronic Aquatic Hazard Category 1

1. Classified by Chemwatch; 2. Classification drawn from HSIS; 3. Classification drawn from EC Directive 1272/2008 - Annex Legend:

Label elements

GHS label elements









SIGNAL WORD

Hazard statement(s)

H222	Extremely flammable aerosol
H302	Harmful if swallowed
H312	Harmful in contact with skin
H332	Harmful if inhaled
H315	Causes skin irritation
H319	Causes serious eye irritation
H371	May cause damage to organs
H335	May cause respiratory irritation
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects
AUH044	Risk of explosion if heated under confinement

Precautionary statement(s) Prevention

-	· ·
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211	Do not spray on an open flame or other ignition source.
P251	Do not pierce or burn, even after use.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.

Precautionary statement(s) Response

P309+P311	IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.
P362	Take off contaminated clothing.
P363	Wash contaminated clothing before reuse.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Precautionary statement(s) Storage

P405	Store locked up.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

Dispose of contents/container in accordance with local regulations.

Label elements







Chemwatch: 5068-42 Page 3 of 15 Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

Relevant risk statements are found in section 2

Indication(s) of	F+, N, Xn
danger	1 1, 14, 741

SAFETY ADVICE	
S02	Keep out of reach of children.
S09	Keep container in a well ventilated place.
S13	Keep away from food, drink and animal feeding stuffs.
S15	Keep away from heat.
S16	Keep away from sources of ignition. No smoking.
S23	Do not breathe gas/fumes/vapour/spray.
S26	In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.
S29	Do not empty into drains.
S33	Take precautionary measures against static discharges.
S35	This material and its container must be disposed of in a safe way.
S36	Wear suitable protective clothing.
S37	Wear suitable gloves.
S38	In case of insufficient ventilation, wear suitable respiratory equipment.
S38	In case of insufficient ventilation, wear suitable respiratory equipment.
S39	Wear eye/face protection.
S40	To clean the floor and all objects contaminated by this material, use water and detergent.
S41	In case of fire and/or explosion, DO NOT BREATHE FUMES.
S43	In case of fire use the extinguishing media detailed in section 5 of this SDS.
S46	If swallowed, seek medical advice immediately and show this container or label.
S51	Use only in well ventilated areas.
S52	Not recommended for interior use on large surface areas.
S56	Dispose of this material and its container at hazardous or special waste collection point.
S 57	Use appropriate container to avoid environmental contamination.
S61	Avoid release to the environment. Refer to special instructions/Safety data sheets.
S64	If swallowed, rinse mouth with water (only if the person is conscious).

Other hazards

Cumulative effects may result following exposure*.
Possible skin sensitizer*.
Limited evidence of a carcinogenic effect*.
May possibly be harmful to the foetus/ embryo*.
Repeated exposure potentially causes skin dryness and cracking*.
Vapours potentially cause drowsiness and dizziness*.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name	
142-82-5	<15	neptane	
8052-42-4	<15	bitumen (petroleum)	
471-34-1	<10	calcium carbonate	
67-56-1	<5	<u>methanol</u>	
64742-47-8.	<5	isoparaffins petroleum hydrotreated HFP	
64742-88-7	<5	solvent naphtha petroleum, medium aliphatic	

Chemwatch: 5068-42 Page 4 of 15 Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

64742-89-8	<5	solvent naphtha petroleum, light aliphatic	
8052-41-3	<5	white spirit	
7732-18-5	>30	water	
68476-85-7.	10-30	hydrocarbon propellant	

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact	If aerosols come in contact with the eyes: Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	 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. If solids or aerosol mists are deposited upon the skin: Flush skin and hair with running water (and soap if available). Remove any adhering solids with industrial skin cleansing cream. DO NOT use solvents. Seek medical attention in the event of irritation.
Inhalation	If aerosols, fumes or combustion products are inhaled: Remove to fresh air. Lay patient down. Keep warm and rested. Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures. If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary. Transport to hospital, or doctor.
Ingestion	 Avoid giving milk or oils. Avoid giving alcohol. Not considered a normal route of entry.

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]

Treat symptomatically.

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]

For acute and short term repeated exposures to methanol:

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

Chemwatch: 5068-42 Page **5** of **15** Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

Folate, as leucovorin, may increase the oxidative removal of formic acid. 4-methylpyrazole may be an effective adjunct in the treatment. 8.Phenytoin may be preferable to diazepam for controlling seizure.

[Ellenhorn Barceloux: Medical Toxicology]

BIOLOGICAL EXPOSURE INDEX - BEI

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

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

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

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

SMALL FIRE:

Water spray, dry chemical or CO2

LARGE FIRE:

▶ Water spray or fog.

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

Advice for firefighters

Fire Fighting

- ▶ Alert Fire Brigade and tell them location and nature of hazard.
- ▶ May be violently or explosively reactive.
- Wear breathing apparatus plus protective gloves.
- ▶ Prevent, by any means available, spillage from entering drains or water course.

Fire/Explosion Hazard

- Liquid and vapour are highly flammable.
- ▶ Severe fire hazard when exposed to heat or flame.
- Vapour forms an explosive mixture with air.
- ▶ Severe explosion hazard, in the form of vapour, when exposed to flame or spark.

SECTION 6 ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Minor Spills

- ▶ Clean up all spills immediately.
- Avoid breathing vapours and contact with skin and eyes.
- Wear protective clothing, impervious gloves and safety glasses.
- ▶ Shut off all possible sources of ignition and increase ventilation.

Major Spills

- ▶ Remove leaking cylinders to a safe place if possible.
- ▶ Release pressure under safe, controlled conditions by opening the valve.
- DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve.
- Clear area of personnel and move upwind.

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

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling

- ▶ Containers, even those that have been emptied, may contain explosive vapours.
- Do NOT cut, drill, grind, weld or perform similar operations on or near containers.
- ▶ Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.

Other information

- ▶ Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents
- ▶ Store in original containers in approved flammable liquid storage area.
- DO NOT store in pits, depressions, basements or areas where vapours may be trapped.
- No smoking, naked lights, heat or ignition sources.

Chemwatch: 5068-42 Page 6 of 15 Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

Conditions for safe storage, including any incompatibilities

Suitable container

- ▶ Aerosol dispenser.
- ▶ Check that containers are clearly labelled.
- ▶ Sulfides are incompatible with acids, diazo and azo compounds, halocarbons, isocyanates, aldehydes, alkali metals, nitrides, hydrides, and other strong reducing agents.
- ▶ Many reactions of sulfides with these materials generate heat and in many cases hydrogen gas.
- ▶ Many sulfide compounds may liberate hydrogen sulfide upon reaction with an acid.

Hydrogen sulfide (H2S):

- ▶ is a highly flammable and reactive gas
- reacts violently with strong oxidisers, metal oxides, metal dusts and powders, bromine pentafluoride, chlorine trifluoride, chromium trioxide, chromyl chloride, dichlorine oxide, nitrogen trichloride, nitryl hypofluorite, oxygen difluoride, perchloryl fluoride, phospham, phosphorus persulfide, silver fulminate, soda-lime, sodium peroxide
- ▶ is incompatible with acetaldehyde, chlorine monoxide, chromic acid, chromic anhydride, copper, nitric acid, phenyldiazonium chloride, sodium
- ▶ forms explosive material with benzenediazonium salts
- ▶ attacks many metals

Flow or agitation of hydrogen sulfide may generate electrostatic charges due to low conductivity

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▶ Avoid reaction with oxidising agents

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

Storage incompatibility

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	heptane	Heptane (n-Heptane)	1640 mg/m3 / 400 ppm	2050 mg/m3 / 500 ppm	Not Available	Not Available
Australia Exposure Standards	bitumen (petroleum)	Bitumen fumes	5 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	calcium carbonate	Calcium carbonate (a)	10 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	methanol	Methyl alcohol	262 mg/m3 / 200 ppm	328 mg/m3 / 250 ppm	Not Available	Sk
Australia Exposure Standards	isoparaffins petroleum hydrotreated HFP	White spirits	790 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	white spirit	White spirits	790 mg/m3	Not Available	Not Available	Not Available
Australia Exposure Standards	hydrocarbon propellant	LPG (liquified petroleum gas)	1800 mg/m3 / 1000 ppm	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
heptane	Heptane	440 ppm	440 ppm	5000 ppm
bitumen (petroleum)	Asphalt; (Bitumen)	0.5 mg/m3	5 mg/m3	30 mg/m3
bitumen (petroleum)	Petroleum asphalt	0.5 mg/m3	5 mg/m3	30 mg/m3
calcium carbonate	Limestone; (Calcium carbonate; Dolomite)	27 mg/m3	27 mg/m3	1300 mg/m3
calcium carbonate	Carbonic acid, calcium salt	45 mg/m3	210 mg/m3	1300 mg/m3
methanol	Methyl alcohol; (Methanol)	Not Available	Not Available	Not Available
isoparaffins petroleum hydrotreated HFP	Stoddard solvent; (Mineral spirits, 85% nonane and 15% trimethyl benzene)	100 ppm	350 ppm	29500 ppm
solvent naphtha petroleum, medium aliphatic	Solvent naphtha, petroleum, medium aliphatic; (Mineral spirits, naphtha)	0.32 mg/m3	3.5 mg/m3	21 mg/m3
solvent naphtha petroleum, light aliphatic	Rubber solvent; (Naphtha (petroleum) light aliphatic)	264 ppm	1700 ppm	10000 ppm
white spirit	Naphtha, hydrotreated heavy; (Isopar L-rev 2)	171 ppm	171 ppm	570 ppm

Chemwatch: 5068-42 Page **7** of **15** Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

white spirit	Solvent naphtha, petroleum, medium aliphatic; (Mineral spirits, naphtha)	0.32 mg/m3	3.5 mg/m3	21 mg/m3
white spirit	Rubber solvent; (Naphtha (petroleum) light aliphatic)	264 ppm	1700 ppm	10000 ppm
white spirit	Petroleum distillates; (Petroleum crude oil)	87.5 ppm	450 ppm	10000 ppm
white spirit	Naphtha (coal tar); (Naphtha [petroleum] light aliphatic; Aliphatic naphtha)	300 ppm	1700 ppm	10000 ppm
white spirit	Petroleum spirits; (VM & P Naphtha, Ligroine, Paint solvent)	75 ppm	400 ppm	400 ppm
white spirit	Mineral oil, white	15 mg/m3	82 mg/m3	490 mg/m3
white spirit	Stoddard solvent; (Mineral spirits, 85% nonane and 15% trimethyl benzene)	100 ppm	350 ppm	29500 ppm
hydrocarbon propellant	Liquified petroleum gas; (L.P.G.)	3,000 ppm	3200 ppm	19000 ppm

Ingredient	Original IDLH	Revised IDLH	
heptane	5,000 ppm	750 ppm	
bitumen (petroleum)	Not Available	Not Available	
calcium carbonate	Not Available	Not Available	
methanol	25,000 ppm	6,000 ppm	
isoparaffins petroleum hydrotreated HFP	29,500 mg/m3	20,000 mg/m3	
solvent naphtha petroleum, medium aliphatic	Not Available	Not Available	
solvent naphtha petroleum, light aliphatic	Not Available	Not Available	
white spirit	29,500 mg/m3 / 10,000 ppm / 10,000 [LEL] ppm	20,000 mg/m3 / 1,100 [LEL] ppm / 1,000 [LEL] ppm	
water	Not Available	Not Available	
hydrocarbon propellant	19,000 [LEL] ppm	2,000 [LEL] ppm	

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.

Personal protection











Eve and face protection

- Safety glasses with side shields.
- ▶ Chemical goggles.
- ► Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task.

Skin protection

See Hand protection below

Hands/feet protection

- ► OTHERWISE: ▶ For potentially moderate exposures:
- ▶ Wear general protective gloves, eg. light weight rubber gloves.

▶ No special equipment needed when handling small quantities.

- ▶ For potentially heavy exposures:
- ▶ Wear chemical protective gloves, eg. PVC. and safety footwear.

BRETHERICK: Handbook of Reactive Chemical Hazards.

Body protection

See Other protection below

Other protection

- ▶ The clothing worn by process operators insulated from earth may develop static charges far higher (up to 100 times) than the minimum ignition energies for various flammable gas-air mixtures. This holds true for a wide range of clothing materials including cotton.
- ► Avoid dangerous levels of charge by ensuring a low resistivity of the surface material worn outermost.

Thermal hazards

Recommended material(s)

Permatex Undercoating Aerosol

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:

Permatex Undercoating Aerosol

Material	СРІ
BUTYL	С
BUTYL/NEOPRENE	С
HYPALON	С
NAT+NEOPR+NITRILE	С
NATURAL RUBBER	С
NATURAL+NEOPRENE	С
NEOPRENE	С
NEOPRENE/NATURAL	С
NITRILE	С
NITRILE+PVC	С
PE/EVAL/PE	С
PVA	С
PVC	С
PVDC/PE/PVDC	С
SARANEX-23	С
SARANEX-23 2-PLY	С
TEFLON	С
VITON	С
VITON/NEOPRENE	С

^{*} 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.

143:2000 & 149:2001, ANSI Z88 or national equivalent)

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	Air-line*	AX-2 P3	AX-PAPR-2 P3 ^
up to 20 x ES	-	AX-3 P3	-
20+ x ES	-	Air-line**	-

^{* -} Continuous-flow; ** - Continuous-flow or positive pressure demand ^ - Full-face

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

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance

Bitumen (known as asphalt in the U.S.) "is the residuum produced from the non-destructive distillation of crude petroleum at atmospheric pressure and/ or under reduced pressures or absence of steam. Bitumens/ asphalts are composed mainly of high-molecular-weight alkylaryl hydrocarbons with high carbon to hydrogen ratios, with carbon numbers > C25, boiling points >400 °C, high viscosity, and negligible water solubility and vapor pressure. These bitumen/ asphalt alkylaryl hydrocarbons are a heterogeneous mixture of linear, branched and cyclic, saturated and unsaturated, and aromatic functional groups. Importantly, polycyclic aromatic hydrocarbons (PAH) such as benzo(a)pyrene, which are toxicologically significant, are only present in bitumen/ asphalt feedstock at very low concentrations.

Physical state	Liquid	Relative density (Water = 1)	0.85-1.05
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Applicable	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	>37	Molecular weight (g/mol)	Not Applicable

Chemwatch: 5068-42 Page 9 of 15 Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

Flash point (°C)	<-81 (propellant)	Taste	Not Available
Evaporation rate	<1 BuAC = 1	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	36.06% (VOC - by wt)
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Applicable
Vapour density (Air = 1)	>1	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Elevated temperatures. Presence of open flame. 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	Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be harmful. Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by sleepiness, reduced alertness, los of reflexes, lack of co-ordination, and vertigo. There is some evidence to suggest that the material can cause respiratory irritation in some persons.
Ingestion	Accidental ingestion of the material may be harmful; animal experiments indicate that ingestion of less than 150 gram may be fatal or may produce serious damage to the health of the individual. Swallowing of the liquid may cause aspiration into the lungs with the risk of chemical pneumonitis; serious consequences may result. (ICSC13733) 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	Skin contact with the material may be harmful; systemic effects may result following absorption. This material can cause inflammation of the skin on contact in some persons. The material may accentuate any pre-existing dermatitis condition Spray mist may produce discomfort Open cuts, abraded or irritated skin should not be exposed to this material
Еуе	This material can cause eye irritation and damage in some persons. Not considered to be a risk because of the extreme volatility of the gas. Workers exposed to fumes of blown bitumens developed inflammation of the cornea and conjunctiva. Exposure to H2S may produce pain, blurred vision, and reaction to eyes which may be permanent in severe cases.
Chronic	Based on experience with animal studies, exposure to the material may result in toxic effects to the development of the foetus, at levels which do not cause significant toxic effects to the mother. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure. Principal route of occupational exposure to the gas is by inhalation.

Permatex	TOXICITY	IRRITATION
Undercoating Aerosol	Not Available	Not Available

Chemwatch: **5068-42**Version No: **9.1.1.1**

Permatex Undercoating Aerosol

Issue Date: **09/09/2014**Print Date: **22/09/2015**

	TOXICITY	IRRITATION
heptane	Inhalation (rat) LC50: 103 mg/L/4H ^[2]	Nil reported
neptane	Oral (rat) LD50: >5000 mg/kg ^[1]	11.11
	TOXICITY	IRRITATION
bitumen (petroleum)	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	Not Available
	Oral (rat) LD50: >5000 mg/kg ^[1]	
		1
	TOXICITY	IRRITATION
calcium carbonate	dermal (rat) LD50: >2000 mg/kg ^[1]	Eye (rabbit): 0.75 mg/24h - SEVERE
	Oral (rat) LD50: >2000 mg/kg ^[1]	Skin (rabbit): 500 mg/24h-moderate
	Oral (rat) LD50: 6450 mg/kge ^[2]	
	TOXICITY	IRRITATION
math an al	Dermal (rabbit) LD50: 15800 mg/kg ^[2]	Eye (rabbit): 100 mg/24h-moderate
methanol	Inhalation (rat) LC50: 64000 ppm/4h ^[2]	Eye (rabbit): 40 mg-moderate
	Oral (rat) LD50: >11872769 mg/kg ^[1]	Skin (rabbit): 20 mg/24 h-moderate
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Not Available
isoparaffins petroleum	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	
hydrotreated HFP	Inhalation (rat) LC50: >1400 ppm/8H ^[2]	
	Oral (rat) LD50: >4500 mg/kg ^[1]	
	Oral (rat) LD50: >5000 mg/kg ^[1]	
	TOXICITY	IRRITATION
solvent naphtha	dermal (rat) LD50: 28000 mg/kg*n ^[2]	[CCINFO]
petroleum, medium aliphatic	Oral (rat) LD50: >19650 mg/kgd ^[2]	Nil reported
	Oral (ray) 2500: 2 10000 mg/kga	
solvent naphtha	TOXICITY	IRRITATION
petroleum, light	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Not Available
aliphatic	Oral (rat) LD50: >4500 mg/kg ^[1]	
	TOXICITY	IRRITATION
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Eye (human): 470 ppm/15m
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Eye (rabbit): 500 mg/24h moderate
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	Nil reported
	Dermal (rabbit) LD50: >1900 mg/kg ^[1]	
	Dermal (rabbit) LD50: >2000 mg/kg ^[1]	
	Dermal (rabbit) LD50: >3000 mg/kg ^[2]	
	dermal (rat) LD50: 28000 mg/kg*n ^[2]	
	Inhalation (rat) LC50: >1400 ppm/8H ^[2]	
white spirit	Inhalation (rat) LC50: 3400 ppm/4H ^[2]	
	Inhalation (rat) LC50: 61 mg/L/4H ^[2]	
	Oral (rat) LD50: >19650 mg/kgd ^[2]	
	Oral (rat) LD50: >4300 mg/kgd ^[2]	
	Oral (rat) LD50: >4500 mg/kg ^[1]	
	Oral (rat) LD50: >4500 mg/kg ^[1]	
	Oral (rat) LD50: >4500 mg/kg ^[1]	
	Oral (rat) LD50: >4500 mg/kg ^[1]	
	Oral (rat) LD50: >5000 mg/kg ^[2]	

Issue Date: **09/09/2014** Print Date: **22/09/2015**

Permatex Undercoating Aerosol

	Oral (rat) LD50: >5000 mg/kg ^[1]		
	TOXICITY	IRRITATION	
water	Oral (rat) LD50: >90000 mg/kg ^[2]	Not Availabl	е
	TOXICITY	IRRITATION	
	Inhalation (mouse) LC50: >15.6<17.9 mm/l2 h	mm/l2="">[1] Not Availabl	e
	Inhalation (mouse) LC50: >15.6<17.9 mm/l2 h		
	Inhalation (mouse) LC50: 410000 ppm2 h ^[1]		
	Inhalation (mouse) LC50: 410000 ppm2 h ^[1]	 	
	Inhalation (rat) LC50: >800000 ppm15 min ^[1]		
hudea anh an	Inhalation (rat) LC50: >800000 ppm15 min ^[1]	1 1 1 1	
hydrocarbon propellant	Inhalation (rat) LC50: 1354.944 mg/L15 min ^[1]		
	Inhalation (rat) LC50: 1355 mg/l15 min ^[1]		
	Inhalation (rat) LC50: 1442.738 mg/L15 min ^[1]	 	
	Inhalation (rat) LC50: 1442.738 mg/L15 min ^[1]		
	Inhalation (rat) LC50: 1443 mg/l15 min ^[1]		
	Inhalation (rat) LC50: 1443 mg/l15 min ^[1]		
	Inhalation (rat) LC50: 570000 ppm15 min ^[1]	 	
		i	
Legend:	Value obtained from Europe ECHA Registered Unless otherwise specified data extracted from I		
	·	-	
CALCIUM CARBONATE	No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects.		
METHANOL	The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin.		
WHITE SPIRIT	white spirit, as CAS RN 8052-41-3		
HYDROCARBON PROPELLANT	No significant acute toxicological data identified in literature search. inhalation of the gas		
BITUMEN (PETROLEUM) & CALCIUM CARBONATE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS.		
ISOPARAFFINS PETROLEUM HYDROTREATED HFP & WATER	No significant acute toxicological data identified in literature search.		
SOLVENT NAPHTHA PETROLEUM, MEDIUM ALIPHATIC & SOLVENT NAPHTHA PETROLEUM, LIGHT ALIPHATIC & WHITE SPIRIT	for petroleum: This product contains benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic. This product contains toluene. There are indications from animal studies that prolonged exposure to high concentrations of toluene may lead to hearing loss. This product contains ethyl benzene and naphthalene from which there is evidence of tumours in rodents Carcinogenicity: Inhalation exposure to mice causes liver tumours, which are not considered relevant to humans.		
Acute Toxicity	~	Carcinogenicity	0
Skin Irritation/Corrosion	✓	Reproductivity	0
Serious Eye		STOT - Single	
Damage/Irritation	*	Exposure	*

Issue Date: **09/09/2014**Print Date: **22/09/2015**

Permatex Undercoating Aerosol

Respiratory or Skin sensitisation	STOT - Repeated Exposure	\circ
Mutagenicity		0

Legend:

✓ – Data required to make classification available

★ - Data available but does not fill the criteria for classification

○ – Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

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.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
heptane	LOW	LOW
methanol	LOW	LOW
water	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
heptane	HIGH (LogKOW = 4.66)
methanol	LOW (BCF = 10)
isoparaffins petroleum hydrotreated HFP	LOW (BCF = 159)
water	LOW (LogKOW = -1.38)

Mobility in soil

Ingredient	Mobility
heptane	LOW (KOC = 274.7)
methanol	HIGH (KOC = 1)
water	LOW (KOC = 14.3)

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



HAZCHEM

2YE

Land transport (ADG)

UN number

1950

Chemwatch: 5068-42 Page **13** of **15** Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

Packing group	Not Applicable
UN proper shipping name	AEROSOLS
Environmental hazard	No relevant data
Transport hazard class(es)	Class 2.1 Subrisk Not Applicable
Special precautions for user	Special provisions 63 190 277 327 344 Limited quantity See SP 277

Air transport (ICAO-IATA / DGR)

an adioport (iono interpolity				
UN number	1950			
Packing group	Not Applicable			
UN proper shipping name	Aerosols, flammable; Aerosols, flammable (engine starting fluid)			
Environmental hazard	No relevant data			
	ICAO/IATA Class	2.1		
Transport hazard class(es)	ICAO / IATA Subrisk	Not Applicable		
ciass(es)	ERG Code	10L		
	Special provisions		A145A167A802; A1A145A167A802	
	Cargo Only Packing In	Instructions 203		
	Cargo Only Maximum	Qty / Pack	150 kg	
Special precautions for user	Passenger and Cargo Packing Instructions		203; Forbidden	
ioi usei	Passenger and Cargo Maximum Qty / Pack		75 kg; Forbidden	
	Passenger and Cargo	Limited Quantity Packing Instructions	Y203; Forbidden	
	Passenger and Cargo	Limited Maximum Qty / Pack	30 kg G; Forbidden	

Sea transport (IMDG-Code / GGVSee)

UN number	1950
Packing group	Not Applicable
UN proper shipping name	AEROSOLS
Environmental hazard	Not Applicable
Transport hazard class(es)	IMDG Class 2.1 IMDG Subrisk Not Applicable
Special precautions for user	EMS Number F-D , S-U Special provisions 63 190 277 327 344 959 Limited Quantities See SP277

Transport in bulk according to Annex II of MARPOL 73 / 78 and the IBC code

Source	Ingredient	Pollution Category
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	heptane	Х
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	methanol	Υ

Chemwatch: 5068-42 Page 14 of 15 Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	isoparaffins petroleum hydrotreated HFP	Y
IMO MARPOL 73/78 (Annex II) - List of Noxious Liquid Substances Carried in Bulk	white spirit	Υ

SECTION 15 REGULATORY INFORMATION

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

HEPTANE(142-82-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

BITUMEN (PETROLEUM)(8052-42-4) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists International Agency for Research on Cancer (IARC) - Agents Classified

by the IARC Monographs

CALCIUM CARBONATE(471-34-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Inventory of Chemical Substances (AICS)

METHANOL(67-56-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

ISOPARAFFINS PETROLEUM HYDROTREATED HFP(64742-47-8.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists International Agency for Research on Cancer (IARC) - Agents Classified

by the IARC Monographs

SOLVENT NAPHTHA PETROLEUM, MEDIUM ALIPHATIC(64742-88-7) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists Australia Inventory of Chemical Substances (AICS)

SOLVENT NAPHTHA PETROLEUM, LIGHT ALIPHATIC(64742-89-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Hazardous Substances Information System - Consolidated Lists International Air Transport Association (IATA) Dangerous Goods Regulations

- Prohibited List Passenger and Cargo Aircraft Australia Inventory of Chemical Substances (AICS)

WHITE SPIRIT(8052-41-3) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists International Agency for Research on Cancer (IARC) - Agents Classified

by the IARC Monographs

WATER(7732-18-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Inventory of Chemical Substances (AICS)

HYDROCARBON PROPELLANT(68476-85-7.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Australia Exposure Standards Australia Inventory of Chemical Substances (AICS)

Australia Hazardous Substances Information System - Consolidated Lists

National Inventory	Status	
Australia - AICS	Y	
Canada - DSL	Y	
Canada - NDSL	N (heptane; white spirit; methanol; solvent naphtha petroleum, medium aliphatic; water; hydrocarbon propellant; solvent naphtha petroleum, light aliphatic; isoparaffins petroleum hydrotreated HFP; bitumen (petroleum))	
China - IECSC	Y	
Europe - EINEC / ELINCS / NLP	Y	
Japan - ENCS	N (solvent naphtha petroleum, medium aliphatic; water; solvent naphtha petroleum, light aliphatic)	

Chemwatch: 5068-42 Page **15** of **15** Issue Date: 09/09/2014 Version No: 9.1.1.1 Print Date: 22/09/2015

Permatex Undercoating Aerosol

Korea - KECI	Υ	
New Zealand - NZIoC	Υ	
Philippines - PICCS	Υ	
USA - TSCA	Υ	
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)	

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No	
heptane	142-82-5, 31394-54-4	
calcium carbonate	1317-65-3, 13397-26-7, 146358-95-4, 15634-14-7, 198352-33-9, 459411-10-0, 471-34-1, 63660-97-9, 72608-12-9, 878759-26-3	
isoparaffins petroleum hydrotreated HFP	101795-05-5., 1030262-12-4., 64742-47-8., 64742-82-1., 8052-41-3.	
hydrocarbon propellant	68476-85-7., 68476-86-8.	

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.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net

The (M)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.

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