SAFETY DATA SHEET
Permabond A905 Surface Conditioner - Aerosol

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

1.1. Product identifier

Product name Permabond A905 Surface Conditioner - Aerosol

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

Identified uses Activator. Cleaning agent.

1.3. Details of the supplier of the safety data sheet

Supplier

Permabond Engineering Adhesives Ltd.
Wessex Way
Colden Common
Winchester
Hampshire SO21 1WP
United Kingdom
Tel: +44 (0)1962 711 661
Fax: +44 (0)1962 711 662
info.europe@permabond.com

1.4. Emergency telephone number

Emergency telephone CHEMTREC UK: +(44)-870-8200418 CHEMTREC US: 800-424-9300 (CCN: 829878)

National emergency telephone number

CHEMTREC Ireland: +(353)-19014670
CHEMTREC Australia: +(61)-290372994
CHEMTREC New Zealand: +(64)-98010034

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Aerosol 1 - H222, H229

Health hazards Skin Irrit. 2 - H315 STOT SE 3 - H336

Environmental hazards Aquatic Chronic 2 - H411

2.2. Label elements

Pictogram

Signal word Danger

Hazard statements

H222 Extremely flammable aerosol.
H229 Pressurised container: may burst if heated.
H315 Causes skin irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

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Precautionary statements	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. P280 Wear protective gloves, eye and face protection. P302+P352a IF ON SKIN: Wash with plenty of soap and water P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Contains	HYDROCARBONS, C7, n-ALKANES, ISOALKANES, CYCLICS, trans-DICHLOROETHYLENE
Supplementary precautionary statements	P235+P410 Keep cool. Protect from sunlight. P261 Avoid breathing vapour/ spray. P271 Use only outdoors or in a well-ventilated area. P273 Avoid release to the environment. P312 Call a POISON CENTRE/doctor if you feel unwell. P333+P313 If skin irritation or rash occurs: Get medical advice/ attention. P362+P364 Take off contaminated clothing and wash it before reuse. P403+P233 Store in a well-ventilated place. Keep container tightly closed. P410+P412 Protect from sunlight. Do not expose to temperatures exceeding 50°C/122°F. P501 Dispose of contents/container in accordance with existing Community, National and local regulations.

2.3. Other hazards

Contents under pressure. Avoid exposing aerosol containers to high temperatures or direct sunlight. This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

HYDROCARBONS, C7, n-ALKANES, ISOALKANES, CYCLICS **30-60%**

CAS number: — EC number: 927-510-4 REACH registration number: 01-2119475515-33-XXXX

Classification
Flam. Liq. 2 - H225
Skin Irrit. 2 - H315
STOT SE 3 - H336
Asp. Tox. 1 - H304
Aquatic Chronic 2 - H411

trans-DICHLOROETHYLENE **1-5%**

CAS number: 156-60-5 EC number: 205-860-2 REACH registration number: 01-2120093504-55-XXXX

Classification
Flam. Liq. 2 - H225
Acute Tox. 4 - H332
Eye Irrit. 2 - H319
STOT SE 3 - H336
Aquatic Chronic 3 - H412

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COPPER NAPHTHENATE **<1%**

CAS number: 1338-02-9 EC number: 215-657-0

M factor (Acute) = 1 M factor (Chronic) = 1

REACH registration exemption – < 1 tonne

Classification
Flam. Liq. 3 - H226
Acute Tox. 4 - H302
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

2-ETHYLHEXANOIC ACID, COPPER SALT **<1%**

CAS number: 22221-10-9 EC number: 244-846-0

M factor (Acute) = 1 M factor (Chronic) = 1

REACH registration pending.

Classification
Acute Tox. 4 - H302
Aquatic Acute 1 - H400
Aquatic Chronic 1 - H410

1,1,1,2-TETRAFLUOROETHANE **<1%**

CAS number: 811-97-2 EC number: 212-377-0 REACH registration number: 01-2119459374-33-XXXX

Classification
Press. Gas (Comp.) - H280

The full text for all hazard statements is displayed in Section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation Move affected person to fresh air at once. Get medical attention if any discomfort continues.

Ingestion Rinse mouth thoroughly with water. Drink a few glasses of water or milk. Do not induce vomiting. Get medical attention if any discomfort continues.

Skin contact Wash skin thoroughly with soap and water. Get medical attention if irritation persists after washing.

Eye contact Remove any contact lenses and open eyelids wide apart. Rinse immediately with plenty of water. Continue to rinse for at least 10 minutes. Get medical attention promptly if symptoms occur after washing.

4.2. Most important symptoms and effects, both acute and delayed

Inhalation Vapours may cause drowsiness and dizziness.

Skin contact Causes skin irritation.

4.3. Indication of any immediate medical attention and special treatment needed

Notes for the doctor Treat symptomatically. Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Foam, carbon dioxide or dry powder.

5.2. Special hazards arising from the substance or mixture

Specific hazards Containers can burst violently or explode when heated, due to excessive pressure build-up. Oxides of carbon. Protection against nuisance dust must be used when the airborne concentration exceeds 10 mg/m3.

5.3. Advice for firefighters

Protective actions during firefighting Containers close to fire should be removed or cooled with water. Use water to keep fire exposed containers cool and disperse vapours. Avoid breathing fire gases or vapours.

Special protective equipment for firefighters Wear self contained breathing apparatus and protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Eliminate all sources of ignition. Warn everybody of potential hazards and evacuate if necessary. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Avoid the spillage or runoff entering drains, sewers or watercourses.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Absorb in vermiculite, dry sand or earth and place into containers. Transfer to suitable, labelled containers for disposal.

6.4. Reference to other sections

Reference to other sections For personal protection, see Section 8. For waste disposal, see section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions During application and drying, solvent vapours will be emitted. Use only in well-ventilated areas. Keep away from heat, sparks and open flame. Do not ingest or inhale.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Aerosol cans: Must not be exposed to direct sunlight or temperatures above 50°C. Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

7.3. Specific end use(s)

Specific end use(s) Activator.

SECTION 8: Exposure controls/Personal protection

8.1. Control parameters

Occupational exposure limits

1,1,1,2-TETRAFLUOROETHANE

Long-term exposure limit (8-hour TWA): WEL 1000 ppm 4240 mg/m³
WEL = Workplace Exposure Limit

HYDROCARBONS, C7, n-ALKANES, ISOALKANES, CYCLICS

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DNEL	Workers - Dermal; Long term systemic effects: 300 mg/kg Workers - Inhalation; Long term systemic effects: 2085 mg/m³

trans-DICHLOROETHYLENE (CAS: 156-60-5)

DNEL	Workers - Inhalation; Long term systemic effects: 797 mg/m³
PNEC	Fresh water; 36.4 µg/l marine water; 3.6 µg/l STP; 17 mg/l Sediment (Freshwater); 548.3 µg/kg Sediment (Marinewater); 54.8 µg/kg Soil; 56.3 µg/kg

8.2. Exposure controls

Protective equipment

Appropriate engineering controls	Provide adequate ventilation. Avoid inhalation of vapours.
Eye/face protection	The following protection should be worn: Chemical splash goggles or face shield. Personal eye protection should conform to EN 166
Hand protection	It is recommended that chemical-resistant, impervious gloves are worn. Gloves should conform to EN 374. For exposure up to 4 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 0.5 hours. For exposure up to 8 hours, wear gloves made of the following material: Nitrile rubber. Thickness: ≥ 0.4 mm The selected gloves should have a breakthrough time of at least 8 hours. The breakthrough time for any glove material may be different for different glove manufacturers. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected.
Other skin and body protection	Uniforms, coveralls, or a lab coat should be worn
Hygiene measures	Do not smoke in work area. Wash at the end of each work shift and before eating, smoking and using the toilet. Use of good industrial hygiene practices is required.
Respiratory protection	Ensure adequate ventilation of the working area. Respiratory protection may be required if excessive airborne contamination occurs. Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Combination filter, type A2/P2. (EN14387)

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance	Liquid.
Colour	Green.
Odour	Characteristic.
Odour threshold	Not determined.

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Melting point	Not determined.
Initial boiling point and range	102°C
Flash point	-26°C
Evaporation rate	5.45
Vapour pressure	187 mm Hg
Vapour density	>1
Relative density	0.7
Solubility(ies)	Insoluble in water.
Partition coefficient	Not determined.
Auto-ignition temperature	Not determined.
Decomposition Temperature	Not determined.
Viscosity	~0.7 mPa s @ 23°C
Explosive properties	Not available.
Oxidising properties	Not applicable.

9.2. Other information

Other information	None.
Volatile organic compound	This product contains a maximum VOC content of ~700 g/litre.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable at normal ambient temperatures.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions There are no known conditions that are likely to result in a hazardous situation.

10.4. Conditions to avoid

Conditions to avoid Avoid heat, flames and other sources of ignition.

10.5. Incompatible materials

Materials to avoid No specific material or group of materials is likely to react with the product to produce a hazardous situation.

10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition could produce carbon monoxide, carbon dioxide, and unidentified organic compounds.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

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Toxicological effects The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Aspiration hazard

Aspiration hazard Not applicable.

Inhalation Gas or vapour in high concentrations may irritate the respiratory system. Vapours may cause headache, fatigue, dizziness and nausea.

Skin contact Irritating to skin. Product has a defatting effect on skin. Repeated exposure may cause skin dryness or cracking.

Eye contact Vapour or spray in the eyes may cause irritation and smarting.

Toxicological information on ingredients.

HYDROCARBONS, C7, n-ALKANES, ISOALKANES, CYCLICS

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	5,840.0
Species	Rat

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	2,800.0
Species	Rat

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} vapours mg/l)	23.3
Species	Rat

Skin corrosion/irritation

Skin corrosion/irritation Read-across data. Method: OECD 404, Rabbit Irritating.

Serious eye damage/irritation

Serious eye damage/irritation Read-across data. Not irritating.

Skin sensitisation

Skin sensitisation Read-across data. Not sensitising.

Germ cell mutagenicity

Genotoxicity - in vitro Read-across data. Negative.

Carcinogenicity

Carcinogenicity Not available.

Reproductive toxicity

Reproductive toxicity - fertility Read-across data. Two-generation study - NOAEL 9000 ppm, Inhalation, Rat F1

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Reproductive toxicity - development	Read-across data. Developmental toxicity: - NOAEC: 1200 ppm, Inhalation, Rat

Specific target organ toxicity - single exposure

STOT - single exposure	Not available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure	Not available.

Aspiration hazard

Aspiration hazard	Not available.

trans-DICHLOROETHYLENE

Acute toxicity - oral

Acute toxicity oral (LD_{50} mg/kg)	2,000.1
Species	Rat

Acute toxicity - dermal

Acute toxicity dermal (LD_{50} mg/kg)	5,000.0
Species	Rabbit

Acute toxicity - inhalation

Acute toxicity inhalation (LC_{50} gases ppmV)	24,000.0
Species	Rat

Skin corrosion/irritation

Animal data	Method: OECD 404, Rabbit Not irritating.

Serious eye damage/irritation

Serious eye damage/irritation	Method: OECD 405, Rabbit Irritating to eyes.

Skin sensitisation

Skin sensitisation	No information available.

Germ cell mutagenicity

Genotoxicity - in vitro	Gene mutation: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative.

Carcinogenicity

Carcinogenicity	No information available.

Reproductive toxicity

Reproductive toxicity - development	Developmental toxicity: - NOAEC: 6000 ppm, Inhalation, Rat

Specific target organ toxicity - single exposure

STOT - single exposure	No information available.

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Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

SECTION 12: Ecological information

Ecotoxicity Toxic to aquatic life with long lasting effects. Avoid release to the environment.

12.1. Toxicity

Toxicity The mixture is classified based on the available hazard information for the ingredients as defined in the classification criteria for mixtures for each hazard class or differentiation in Annex I to Regulation 1272/2008/EC. Relevant available health/ecological information for the substances listed under Section 3 is provided in the following.

Ecological information on ingredients.

HYDROCARBONS, C7, n-ALKANES, ISOALKANES, CYCLICS

Acute aquatic toxicity

Acute toxicity - fish LL_{50}, 96 hours: > 13.4 mg/l, Oncorhynchus mykiss (Rainbow trout)

Acute toxicity - aquatic plants NOELR, 72 hours: 6.3 mg/l, Pseudokirchneriella subcapitata

Acute toxicity - microorganisms NOELR, 48 hours: 5.999 mg/l, Tetrahymena pyriformis

Chronic aquatic toxicity

Chronic toxicity - fish early life stage NOELR, 28 days: 1.534 mg/l, Oncorhynchus mykiss (Rainbow trout)

Chronic toxicity - aquatic invertebrates NOELR, 21 days: 1 mg/l, Daphnia magna

trans-DICHLOROETHYLENE

Acute aquatic toxicity

Acute toxicity - aquatic invertebrates NOEC, 48 hours: 110 mg/l, Daphnia magna
LC_{50}, 48 hours: 220 - 290 mg/l, Daphnia magna

COPPER NAPHTHENATE

Acute aquatic toxicity

$LE(C)_{50}$ 0.1 < L(E)C50 ≤ 1

M factor (Acute) 1

Chronic aquatic toxicity

M factor (Chronic) 1

2-ETHYLHEXANOIC ACID, COPPER SALT

Acute aquatic toxicity

$LE(C)_{50}$ 0.1 < L(E)C50 ≤ 1

M factor (Acute) 1

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Chronic aquatic toxicity

M factor (Chronic) 1

12.2. Persistence and degradability

Persistence and degradability No data available.

12.3. Bioaccumulative potential

Bioaccumulative potential No data available on bioaccumulation.

Partition coefficient Not determined.

12.4. Mobility in soil

Mobility The product contains organic solvents which will evaporate easily from all surfaces.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects None known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information Waste disposal should be in accordance with existing Community, National and local regulations

Disposal methods Empty containers must not be punctured or incinerated because of the risk of an explosion.

Waste class 16 05 04 gases in pressure containers (including halons) containing dangerous substances.

SECTION 14: Transport information

14.1. UN number

1950

14.2. UN proper shipping name

Proper shipping name (ADR/RID) AEROSOLS, FLAMMABLE

Proper shipping name (IMDG) AEROSOLS

Proper shipping name (ICAO) AEROSOLS, FLAMMABLE

Proper shipping name (ADN) AEROSOLS

14.3. Transport hazard class(es)

ADR/RID class 2

IMDG class 2

ICAO class/division 2.1

Transport labels

14.4. Packing group

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Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant

14.6. Special precautions for user

EmS	F-D, S-U
Tunnel restriction code	(D)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code	Not relevant.

SECTION 15: Regulatory information

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

National regulations	Petroleum (Consolidation) Act, as amended 1984 SI 1244. Highly Flammable Liquid Regulations 1972. Rivers (Prevention of Pollution) Act 1961. Control of Pollution (Special Waste) Regulations 1980 (as amended).
EU legislation	Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). COMMISSION REGULATION (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)
Guidance	Workplace Exposure Limits EH40. Introduction to Local Exhaust Ventilation HS(G)37. CHIP for everyone HSG228. Approved Classification and Labelling Guide (Sixth edition) L131.

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Revision date	09/11/2018
Revision	4
Supersedes date	26/07/2017

Permabond A905 Surface Conditioner - Aerosol

Hazard statements in full

H222 Extremely flammable aerosol.
H225 Highly flammable liquid and vapour.
H226 Flammable liquid and vapour.
H229 Pressurised container: may burst if heated.
H280 Contains gas under pressure; may explode if heated.
H302 Harmful if swallowed.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H332 Harmful if inhaled.
H336 May cause drowsiness or dizziness.
H400 Very toxic to aquatic life.
H410 Very toxic to aquatic life with long lasting effects.
H411 Toxic to aquatic life with long lasting effects.
H412 Harmful to aquatic life with long lasting effects.