

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identifier

Product Description: Carbon conductive cement adhesive
Cat No. : 41212

Unique Formula Identifier (UFI) W0A1-05Q4-6X0Y-6M3J

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

Recommended Use Laboratory chemicals.
Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company Avocado Research Chemicals Ltd.
(Part of Thermo Fisher Scientific)
Shore Road, Heysham
Lancashire, LA3 2XY,
United Kingdom
Office Tel: +44 (0) 1524 850506
Office Fax: +44 (0) 1524 850608

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-227-6701 / **Europe** call: +32 14 57 52 11
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99
CHEMTREC Tel. No. **US**:001-800-424-9300 / **Europe**:001-703-527-3887

Poison Centre - Emergency information services **Ireland** : National Poisons Information Centre (NPIC) -
01 809 2166 (8am-10pm, 7 days a week)
Malta : +356 2395 2000
Cyprus : +357 2240 5611

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567

Physical hazards

Based on available data, the classification criteria are not met

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

Health hazards

Aspiration Toxicity
Skin Corrosion/Irritation
Serious Eye Damage/Eye Irritation
Specific target organ toxicity - (repeated exposure)

Category 1 (H304)
Category 2 (H315)
Category 2 (H319)
Category 2 (H373)

Environmental hazards

Based on available data, the classification criteria are not met

Full text of Hazard Statements: see section 16

2.2. Label elements



Signal Word

Danger

Hazard Statements

H304 - May be fatal if swallowed and enters airways
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H373 - May cause damage to organs through prolonged or repeated exposure
EUH066 - Repeated exposure may cause skin dryness or cracking

Precautionary Statements

P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician
P331 - Do NOT induce vomiting
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention
P314 - Get medical advice/attention if you feel unwell
P280 - Wear protective gloves/protective clothing/eye protection/face protection

2.3. Other hazards

Contains a known or suspected endocrine disruptor
Contains a substance on the National Authorities Endocrine Disruptor Lists

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Component	CAS No	EC No	Weight %	CLP Classification - According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567
Proprietary non-hazardous ingredients	N/A		25 - 50	-
Xylenes (o-, m-, p- isomers)	1330-20-7	EEC No. 215-535-7	10 - 25	Flam. Liq. 3 (H226) Asp. Tox. 1 (H304) Acute Tox. 4 (H312)

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

				Acute Tox. 4 (H332) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) STOT SE 3 (H335) STOT RE 2 (H373) Aquatic Chronic 3 (H412)
Methyl ethyl ketone	78-93-3	EEC No. 201-159-0	10 - 25	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336) (EUH066)
Acetone	67-64-1	200-662-2	10 - 25	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336) EUH066
Propylene glycol monomethyl ether acetate	108-65-6	EEC No. 203-603-9	5 - 10	Flam. Liq. 3 (H226)
Ethyl acetate	141-78-6	EEC No. 205-500-4	5 - 10	Flam. Liq. 2 (H225) Eye Irrit. 2 (H319) STOT SE 3 (H336) EUH066

Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

General Advice	If symptoms persist, call a physician.
Eye Contact	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get medical attention.
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes. If skin irritation persists, call a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur. Do NOT induce vomiting. Call a physician or poison control center immediately. If vomiting occurs naturally, have victim lean forward.
Inhalation	Remove to fresh air. If not breathing, give artificial respiration. Get medical attention if symptoms occur. Risk of serious damage to the lungs (by aspiration).
Self-Protection of the First Aider	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

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

None reasonably foreseeable. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting

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

Notes to Physician Treat symptomatically. Symptoms may be delayed.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Flammable. Containers may explode when heated. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Thermal decomposition can lead to release of irritating gases and vapors.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment as required.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Keep in suitable, closed containers for disposal. Sweep up and shovel into suitable containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Wash hands before breaks and after work.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place. Keep away from heat, sparks and flame.

Technical Rules for Hazardous Substances (TRGS) 510 Class 10
Storage Class (LGK) (Germany)

7.3. Specific end use(s)

Use in laboratories

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive (EU) 2019/1831 of 24 October 2019 establishing a fifth list of indicative occupational exposure limit values pursuant to Council Directive 98/24/EC and amending Commission Directive 2000/39/EC **UK** - EH40/2005 Work Exposure Limits, Fourth edition. Published 2020. **IRE** - 2021 Code of Practice for the Chemical Agents Regulations, Schedule 1. Published by the Health and Safety Authority

Component	The United Kingdom	European Union	Ireland
Xylenes (o-, m-, p- isomers)	STEL: 100 ppm 15 min STEL: 441 mg/m ³ 15 min TWA: 50 ppm 8 hr TWA: 220 mg/m ³ 8 hr Skin	TWA: 50 ppm (8h) TWA: 221 mg/m ³ (8h) STEL: 100 ppm (15min) STEL: 442 mg/m ³ (15min) Skin	TWA: 50 ppm 8 hr. TWA: 221 mg/m ³ 8 hr. STEL: 100 ppm 15 min STEL: 442 mg/m ³ 15 min Skin
Methyl ethyl ketone	STEL: 300 ppm 15 min STEL: 899 mg/m ³ 15 min TWA: 200 ppm 8 hr TWA: 600 mg/m ³ 8 hr Skin	TWA: 200 ppm (8h) TWA: 600 mg/m ³ (8h) STEL: 300 ppm (15min) STEL: 900 mg/m ³ (15min)	TWA: 200 ppm 8 hr. TWA: 600 mg/m ³ 8 hr. STEL: 300 ppm 15 min STEL: 900 mg/m ³ 15 min Skin
Acetone	TWA: 500 ppm TWA: 1210 mg/m ³ STEL: 1500 ppm STEL: 3620 mg/m ³	TWA: 500 ppm (8h) TWA: 1210 mg/m ³ (8h)	TWA: 500 ppm 8 hr. TWA: 1210 mg/m ³ 8 hr. STEL: 1500 ppm 15 min STEL: 3630 mg/m ³ 15 min
Propylene glycol monomethyl ether acetate	STEL: 100 ppm 15 min STEL: 548 mg/m ³ 15 min TWA: 50 ppm 8 hr TWA: 274 mg/m ³ 8 hr Skin	TWA: 50 ppm (8h) TWA: 275 mg/m ³ (8h) STEL: 100 ppm (15min) STEL: 550 mg/m ³ (15min) Skin	TWA: 50 ppm 8 hr. TWA: 275 mg/m ³ 8 hr. STEL: 100 ppm 15 min STEL: 550 mg/m ³ 15 min Skin
Ethyl acetate	STEL: 1468 mg/m ³ 15 min STEL: 400 ppm 15 min TWA: 734 mg/m ³ 8 hr TWA: 200 ppm 8 hr	TWA: 734 mg/m ³ (8h) TWA: 200 ppm (8h) STEL: 1468 mg/m ³ (15min) STEL: 400 ppm (15min)	TWA: 734 mg/m ³ 8 hr. TWA: 200 ppm 8 hr. STEL: 1468 mg/m ³ 15 min STEL: 400 ppm 15 min

Biological limit values

List source(s): **UK** - Biological Monitoring Guidance Values provided by the UK's Health and Safety Executive (HSE) Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended) and EH40/2005.

Component	United Kingdom	European Union
Xylenes (o-, m-, p- isomers)	Methyl hippuric acid: 650 mmol/mol creatinine urine post shift	
Methyl ethyl ketone	Butan-2-one: 70 µmol/L urine post shift	

Derived No Effect Level (DNEL) / Derived Minimum Effect Level (DMEL)

See table for values

Component	Acute effects local (Dermal)	Acute effects systemic (Dermal)	Chronic effects local (Dermal)	Chronic effects systemic (Dermal)
Xylenes (o-, m-, p- isomers) 1330-20-7 (10 - 25)				DNEL = 212mg/kg bw/day
Methyl ethyl ketone 78-93-3 (10 - 25)				DNEL = 1161mg/kg bw/day
Acetone 67-64-1 (10 - 25)				DNEL = 186mg/kg bw/day
Propylene glycol monomethyl ether acetate 108-65-6 (5 - 10)				DNEL = 796mg/kg bw/day
Ethyl acetate 141-78-6 (5 - 10)				DNEL = 63mg/kg bw/day

Component	Acute effects local (Inhalation)	Acute effects systemic (Inhalation)	Chronic effects local (Inhalation)	Chronic effects systemic (Inhalation)
Xylenes (o-, m-, p- isomers)	DNEL = 442mg/m ³	DNEL = 442mg/m ³	DNEL = 221mg/m ³	DNEL = 221mg/m ³

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

1330-20-7 (10 - 25)				
Methyl ethyl ketone 78-93-3 (10 - 25)				DNEL = 600mg/m ³
Acetone 67-64-1 (10 - 25)	DNEL = 2420mg/m ³			DNEL = 1210mg/m ³
Propylene glycol monomethyl ether acetate 108-65-6 (5 - 10)	DNEL = 550mg/m ³			DNEL = 275mg/m ³
Ethyl acetate 141-78-6 (5 - 10)	DNEL = 1468 mg/m ³ 400 ppm	DNEL = 1468 mg/m ³ 400 ppm	DNEL = 734 mg/m ³ 200 ppm	DNEL = 734mg/m ³

Predicted No Effect Concentration (PNEC)

See values below.

Component	Fresh water	Fresh water sediment	Water Intermittent	Microorganisms in sewage treatment	Soil (Agriculture)
Xylenes (o-, m-, p-isomers) 1330-20-7 (10 - 25)	PNEC = 0.327mg/L	PNEC = 12.46mg/kg sediment dw	PNEC = 0.327mg/L	PNEC = 6.58mg/L	PNEC = 2.31mg/kg soil dw
Methyl ethyl ketone 78-93-3 (10 - 25)	PNEC = 55.8mg/L	PNEC = 284.74mg/kg sediment dw	PNEC = 55.8mg/L	PNEC = 709mg/L	PNEC = 22.5mg/kg soil dw
Acetone 67-64-1 (10 - 25)	PNEC = 10.6mg/L	PNEC = 30.4mg/kg sediment dw	PNEC = 21mg/L	PNEC = 100mg/L	PNEC = 29.5mg/kg soil dw
Propylene glycol monomethyl ether acetate 108-65-6 (5 - 10)	PNEC = 0.635mg/L	PNEC = 3.29mg/kg sediment dw	PNEC = 6.35mg/L	PNEC = 100mg/L	PNEC = 0.29mg/kg soil dw
Ethyl acetate 141-78-6 (5 - 10)	PNEC = 0.24mg/L	PNEC = 1.15mg/kg sediment dw	PNEC = 1.65mg/L	PNEC = 650mg/L	PNEC = 0.148mg/kg soil dw

Component	Marine water	Marine water sediment	Marine water intermittent	Food chain	Air
Xylenes (o-, m-, p-isomers) 1330-20-7 (10 - 25)	PNEC = 0.327mg/L	PNEC = 12.46mg/kg sediment dw			
Methyl ethyl ketone 78-93-3 (10 - 25)	PNEC = 55.8mg/L	PNEC = 284.7mg/kg sediment dw		PNEC = 1000mg/kg food	
Acetone 67-64-1 (10 - 25)	PNEC = 1.06mg/L	PNEC = 3.04mg/kg sediment dw			
Propylene glycol monomethyl ether acetate 108-65-6 (5 - 10)	PNEC = 0.0635mg/L	PNEC = 0.329mg/kg sediment dw			
Ethyl acetate 141-78-6 (5 - 10)	PNEC = 0.024mg/L	PNEC = 0.115mg/kg sediment dw		PNEC = 0.2g/kg food	

8.2. Exposure controls

Engineering Measures

Ensure that eyewash stations and safety showers are close to the workstation location. Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting equipment.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection

Goggles (European standard - EN 166)

Hand Protection

Protective gloves

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Viton (R)	See manufacturers recommendations	-	EN 374	(minimum requirement)

Skin and body protection Long sleeved clothing.

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: low boiling organic solvent Type AX Brown conforming to EN371

Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls

Prevent product from entering drains. Do not allow material to contaminate ground water system. Local authorities should be advised if significant spillages cannot be contained.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Physical State	Liquid paste Solid	
Appearance	Black	
Odor	Solvent-like	
Odor Threshold	No data available	
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	55 °C / 131 °F	
Flammability (liquid)	Not applicable	Solid
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	Lower 1%	
	Upper 13%	
Flash Point	-19 °C / -2.2 °F	Method - No information available
Autoignition Temperature	315 °C / 599 °F	
Decomposition Temperature	No data available	
pH	No information available	
Viscosity	Not applicable	Solid
Water Solubility	Partially soluble	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	log Pow	
Xylenes (o-, m-, p- isomers)	3.15	
Methyl ethyl ketone	0.29	
Acetone	-0.24	
Propylene glycol monomethyl ether acetate	1.2	
Ethyl acetate	0.73	

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

Vapor Pressure	No data available	
Density / Specific Gravity	No data available	
Bulk Density	Not applicable	Liquid
Vapor Density	Not applicable	Solid
Particle characteristics	Not applicable (liquid)	

9.2. Other information

Explosive Properties	Vapors may form explosive mixtures with air
Evaporation Rate	Not applicable - Solid

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity
None known, based on information available

10.2. Chemical stability
Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.
Hazardous Reactions None under normal processing.

10.4. Conditions to avoid
Keep away from open flames, hot surfaces and sources of ignition.

10.5. Incompatible materials
None known.

10.6. Hazardous decomposition products
Carbon monoxide (CO). Carbon dioxide (CO₂). Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information

(a) acute toxicity;

Oral	Based on available data, the classification criteria are not met
Dermal	Based on available data, the classification criteria are not met
Inhalation	Based on available data, the classification criteria are not met

Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Xylenes (o-, m-, p- isomers)	LD50 = 3500 mg/kg (Rat)	LD50 > 4350 mg/kg (Rabbit)	29.08 mg/L [MOE Risk Assessment Vol.1, 2002]
Methyl ethyl ketone	LD50 = 2483 mg/kg (Rat)	LD50 = 5000 mg/kg (Rabbit)	LC50 = 11700 ppm (Rat) 4 h
Acetone	5800 mg/kg (Rat)	> 15800 mg/kg (rabbit) > 7400 mg/kg (rat)	76 mg/l, 4 h, (rat)
Propylene glycol monomethyl ether acetate	LD50 = 8532 mg/kg (Rat)	LD50 > 5 g/kg (Rabbit)	LC50 = 16000 mg/m ³ (Rat) 6 h
Ethyl acetate	10,200 mg/kg (Rat)	> 20 mL/kg (Rabbit) > 18000 mg/kg (Rabbit)	58 mg/l (rat; 8 h)

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;
Respiratory No data available
Skin No data available

Component	Test method	Test species	Study result
Acetone 67-64-1 (10 - 25)	Guinea Pig Maximisation Test (GPMT)	guinea pig	non-sensitising
Ethyl acetate 141-78-6 (5 - 10)	OECD Test Guideline 406	guinea pig	- non-sensitising

(e) germ cell mutagenicity; No data available

Component	Test method	Test species	Study result
Acetone 67-64-1 (10 - 25)	OECD Test Guideline 471 AMES test	in vivo	negative
	OECD Test Guideline 476 Mammalian Gene cell mutation	in vitro	negative
Ethyl acetate 141-78-6 (5 - 10)	OECD Test Guideline 471 AMES test	in vitro Bacteria	negative
	OECD Test Guideline 473 Chromosomal aberration assay	in vitro Mammalian	negative
	OECD Test Guideline 476 Gene cell mutation	in vitro Mammalian	negative
	OECD Test Guideline 474 Mouse micronucleus assay	in vivo Mammalian	negative

(f) carcinogenicity; No data available
 There are no known carcinogenic chemicals in this product

(g) reproductive toxicity; No data available

Component	Test method	Test species / Duration	Study result
Ethyl acetate 141-78-6 (5 - 10)	OECD Test Guideline 416	Oral mouse 2 Generation	NOAEL = 26400 mg/kg bw/day
	OECD Test Guideline 414	Inhalation Rat	NOAEC = 73300 mg/m ³

(h) STOT-single exposure; No data available
Results / Target organs Central nervous system (CNS).

(i) STOT-repeated exposure; Category 2
Target Organs Heart, Liver, Kidney.

(j) aspiration hazard; Category 1

Symptoms / effects, both acute and delayed Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting.

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

11.2. Information on other hazards

Endocrine Disrupting Properties Assess endocrine disrupting properties for human health

Contains a substance on the National Authorities Endocrine Disruptor Lists

Component	EU National Authorities Endocrine Disruptor Lists - Health
Methyl ethyl ketone 78-93-3 (10 - 25)	List II

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects

The product contains following substances which are hazardous for the environment.
Contains a substance which is: Very toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae
Xylenes (o-, m-, p- isomers)	LC50: 30.26 - 40.75 mg/L, 96h static (Poecilia reticulata) LC50: = 780 mg/L, 96h semi-static (Cyprinus carpio) LC50: 23.53 - 29.97 mg/L, 96h static (Pimephales promelas) LC50: > 780 mg/L, 96h (Cyprinus carpio) LC50: 7.711 - 9.591 mg/L, 96h static (Lepomis macrochirus) LC50: = 19 mg/L, 96h (Lepomis macrochirus) LC50: 13.1 - 16.5 mg/L, 96h flow-through (Lepomis macrochirus) LC50: 13.5 - 17.3 mg/L, 96h (Oncorhynchus mykiss) LC50: 2.661 - 4.093 mg/L, 96h static (Oncorhynchus mykiss) LC50: = 13.4 mg/L, 96h flow-through (Pimephales promelas)	LC50: = 0.6 mg/L, 48h (Gammarus lacustris) EC50: = 3.82 mg/L, 48h (water flea)	
Methyl ethyl ketone	Lepomis macrochirus: LC50=3,22 g/L 96 h	EC50: = 5091 mg/L, 48h (Daphnia magna) EC50: 4025 - 6440 mg/L, 48h Static (Daphnia magna) EC50: > 520 mg/L, 48h (Daphnia magna)	
Acetone	Oncorhynchus mykiss: LC50 = 5540 mg/l 96h Alburnus alburnus: LC50 = 11000 mg/l 96h Leuciscus idus: LC50 = 11300 mg/L/48h Salmo gairdneri: LC50 = 6100 mg/L/24h	EC50 = 8800 mg/L/48h EC50 = 12700 mg/L/48h EC50 = 12600 mg/L/48h	NOEC = 430 mg/l (algae; 96 h)
Propylene glycol monomethyl ether acetate	LC50: = 161 mg/L, 96h static (Pimephales promelas)	EC50: > 500 mg/L, 48h (Daphnia magna)	
Ethyl acetate	Fathead minnow: LC50: 230 mg/l/ 96h Gold orfe: LC50: 270 mg/L/48h	EC50 = 717 mg/L/48h	EC50 = 3300 mg/L/48h

Component	Microtox	M-Factor
Xylenes (o-, m-, p- isomers)	EC50 = 0.0084 mg/L 24 h	
Methyl ethyl ketone	EC50 = 3403 mg/L 30 min EC50 = 3426 mg/L 5 min	

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

Acetone	EC50 = 14500 mg/L/15 min	
Ethyl acetate	EC50 = 1180 mg/L 5 min EC50 = 1500 mg/L 15 min EC50 = 5870 mg/L 15 min EC50 = 7400 mg/L 2 h	

12.2. Persistence and degradability No information available

Persistence

Persistence is unlikely, based on information available.

Component	Degradability
Methyl ethyl ketone 78-93-3 (10 - 25)	98% (28d)
Acetone 67-64-1 (10 - 25)	91 % (28 d) (OECD 301 B)
Ethyl acetate 141-78-6 (5 - 10)	79 % (20 d) (OECD 301 D)

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Xylenes (o-, m-, p- isomers)	3.15	0.6 - 15 dimensionless
Methyl ethyl ketone	0.29	No data available
Acetone	-0.24	0.69 dimensionless
Propylene glycol monomethyl ether acetate	1.2	No data available
Ethyl acetate	0.73	30 dimensionless

12.4. Mobility in soil

The product contains volatile organic compounds (VOC) which will evaporate easily from all surfaces. Will likely be mobile in the environment due to its volatility. Disperses rapidly in air.

12.5. Results of PBT and vPvB assessment

No data available for assessment.

12.6. Endocrine disrupting properties

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

12.7. Other adverse effects

Persistent Organic Pollutant

This product does not contain any known or suspected substance

Ozone Depletion Potential

This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues/Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

European Waste Catalogue (EWC)

According to the European Waste Catalog, Waste Codes are not product specific, but application specific.

Other Information

Do not flush to sewer. Waste codes should be assigned by the user based on the application for which the product was used. Do not empty into drains.

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN1133
14.2. UN proper shipping name ADHESIVES
14.3. Transport hazard class(es) 3
14.4. Packing group II

ADR

14.1. UN number UN1133
14.2. UN proper shipping name ADHESIVES
14.3. Transport hazard class(es) 3
14.4. Packing group II

IATA

14.1. UN number UN1133
14.2. UN proper shipping name ADHESIVES
14.3. Transport hazard class(es) 3
14.4. Packing group II

14.5. Environmental hazards No hazards identified
14.6. Special precautions for user No special precautions required.
14.7. Maritime transport in bulk according to IMO instruments Not applicable, packaged goods

SECTION 15: REGULATORY INFORMATION

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

International Inventories

Europe (EINECS/ELINCS/NLP), China (IECSC), Taiwan (TCSI), Korea (KECL), Japan (ENCS), Japan (ISHL), Canada (DSL/NDSL), Australia (AICS), New Zealand (NZIoC), Philippines (PICCS). US EPA (TSCA) - Toxic Substances Control Act, (40 CFR Part 710)

Component	CAS No	EINECS	ELINCS	NLP	IECSC	TCSI	KECL	ENCS	ISHL
Proprietary non-hazardous ingredients	N/A	-	-	-	-	-	-	-	-
Xylenes (o-, m-, p- isomers)	1330-20-7	215-535-7	-	-	X	X	KE-35427	X	X
Methyl ethyl ketone	78-93-3	201-159-0	-	-	X	X	KE-24094	X	X
Acetone	67-64-1	200-662-2	-	-	X	X	KE-29367	X	X
Propylene glycol monomethyl ether acetate	108-65-6	203-603-9	-	-	X	X	KE-23315	X	X
Ethyl acetate	141-78-6	205-500-4	-	-	X	X	KE-00047	X	X

Component	CAS No	TSCA	TSCA Inventory notification - Active-Inactive	DSL	NDSL	AICS	NZIoC	PICCS
Proprietary non-hazardous ingredients	N/A	-	-	-	-	-	-	-
Xylenes (o-, m-, p- isomers)	1330-20-7	X	ACTIVE	X	-	X	X	X
Methyl ethyl ketone	78-93-3	X	ACTIVE	X	-	X	X	X
Acetone	67-64-1	X	ACTIVE	X	-	X	X	X
Propylene glycol monomethyl ether acetate	108-65-6	X	ACTIVE	X	-	X	X	X
Ethyl acetate	141-78-6	X	ACTIVE	X	-	X	X	X

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

Legend: X - Listed '-' - Not Listed

KECL - NIER number or KE number (<http://ncis.nier.go.kr/en/main.do>)

Authorisation/Restrictions according to EU REACH

Component	CAS No	REACH (1907/2006) - Annex XIV - Substances Subject to Authorization	REACH (1907/2006) - Annex XVII - Restrictions on Certain Dangerous Substances	REACH Regulation (EC 1907/2006) article 59 - Candidate List of Substances of Very High Concern (SVHC)
Proprietary non-hazardous ingredients	N/A	-	-	-
Xylenes (o-, m-, p- isomers)	1330-20-7	-	Use restricted. See item 75. (see link for restriction details)	-
Methyl ethyl ketone	78-93-3	-	Use restricted. See item 75. (see link for restriction details)	-
Acetone	67-64-1	-	Use restricted. See item 75. (see link for restriction details)	-
Propylene glycol monomethyl ether acetate	108-65-6	-	-	-
Ethyl acetate	141-78-6	-	Use restricted. See item 75. (see link for restriction details)	-

REACH links

<https://echa.europa.eu/substances-restricted-under-reach>

Seveso III Directive (2012/18/EC)

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements
Proprietary non-hazardous ingredients	N/A	Not applicable	Not applicable
Xylenes (o-, m-, p- isomers)	1330-20-7	Not applicable	Not applicable
Methyl ethyl ketone	78-93-3	Not applicable	Not applicable
Acetone	67-64-1	Not applicable	Not applicable
Propylene glycol monomethyl ether acetate	108-65-6	Not applicable	Not applicable
Ethyl acetate	141-78-6	Not applicable	Not applicable

Regulation (EC) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of dangerous chemicals

Not applicable

Contains component(s) that meet a 'definition' of per & poly fluoroalkyl substance (PFAS)?

Not applicable

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work .

Take note of Directive 2000/39/EC establishing a first list of indicative occupational exposure limit values

National Regulations

UK - Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment

WGK Classification

Water endangering class = 2 (self classification)

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

Component	Germany - Water Classification (AwSV)	Germany - TA-Luft Class
Xylenes (o-, m-, p- isomers)	WGK2	
Methyl ethyl ketone	WGK1	
Acetone	WGK1	
Propylene glycol monomethyl ether acetate	WGK1	
Ethyl acetate	WGK1	

Component	France - INRS (Tables of occupational diseases)
Xylenes (o-, m-, p- isomers)	Tableaux des maladies professionnelles (TMP) - RG 4bis, RG 84
Methyl ethyl ketone	Tableaux des maladies professionnelles (TMP) - RG 84
Acetone	Tableaux des maladies professionnelles (TMP) - RG 84
Propylene glycol monomethyl ether acetate	Tableaux des maladies professionnelles (TMP) - RG 84
Ethyl acetate	Tableaux des maladies professionnelles (TMP) - RG 84

Component	Switzerland - Ordinance on the Reduction of Risk from handling of hazardous substances preparation (SR 814.81)	Switzerland - Ordinance on Incentive Taxes on Volatile Organic Compounds (OVOC)	Switzerland - Ordinance of the Rotterdam Convention on the Prior Informed Consent Procedure
Xylenes (o-, m-, p- isomers) 1330-20-7 (10 - 25)	Prohibited and Restricted Substances	Group II	
Methyl ethyl ketone 78-93-3 (10 - 25)		Group I	
Acetone 67-64-1 (10 - 25)		Group I	
Propylene glycol monomethyl ether acetate 108-65-6 (5 - 10)		Group I	
Ethyl acetate 141-78-6 (5 - 10)		Group I	

15.2. Chemical safety assessment

Chemical Safety Assessment/Reports (CSA/CSR) are not required for mixtures

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H304 - May be fatal if swallowed and enters airways
 H315 - Causes skin irritation
 H319 - Causes serious eye irritation
 H373 - May cause damage to organs through prolonged or repeated exposure
 EUH066 - Repeated exposure may cause skin dryness or cracking
 H225 - Highly flammable liquid and vapor
 H226 - Flammable liquid and vapor
 H312 - Harmful in contact with skin
 H332 - Harmful if inhaled
 H335 - May cause respiratory irritation
 H336 - May cause drowsiness or dizziness

Legend

CAS - Chemical Abstracts Service

EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

DSL/NDL - Canadian Domestic Substances List/Non-Domestic Substances List

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

NZIoC - New Zealand Inventory of Chemicals

SAFETY DATA SHEET

Carbon conductive cement adhesive

Revision Date 15-Feb-2024

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

NOEC - No Observed Effect Concentration

PBT - Persistent, Bioaccumulative, Toxic

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

Predicted No Effect Concentration (PNEC)

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road

IMO/MDG - International Maritime Organization/International Maritime Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

ICAO/IATA - International Civil Aviation Organization/International Air Transport Association

MARPOL - International Convention for the Prevention of Pollution from Ships

ATE - Acute Toxicity Estimate

VOC - (Volatile Organic Compound)

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Physical hazards On basis of test data

Health Hazards Calculation method

Environmental hazards Calculation method

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

Chemical incident response training.

Fire prevention and fighting, identifying hazards and risks, static electricity, explosive atmospheres posed by vapours and dusts.

Prepared By Health, Safety and Environmental Department

Creation Date 22-Jan-2018

Revision Date 15-Feb-2024

Revision Summary New emergency telephone response service provider.

This safety data sheet complies with Regulation UK SI 2019/758 and UK SI 2020/1577 as amended.

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet