

Safety Data Sheet

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Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier : Overcoat Pen—Black
Other Means of Identification : Stylo de Vernis d'Épargne—Noir
Related Part # : MP014032

Recommended Use and Restriction on Use

Use : Protective coating for printed circuit boards
Uses Advised Against : Not available

Details of Manufacturer or Importer

Premier Farnell
150 Armley Road
Leeds LS12 2QQ
Tel. : +44 (0) 8701 202530

Emergency telephone number

+44 1865 407333



Section 2: Hazard(s) Identification

Classification of Hazardous Materials

GHS Categories			
Criteria	Category	Signal Word	Pictograms
Flammable Liquid	2	Warning	Flame
Skin Sensitization	1	Warning	Exclamation
Eye Irritation	2	Warning	Exclamation
Specific Target Organ Toxicity Single Exposure	3	Warning	Exclamation
Hazardous to the Aquatic Environment Acute	3	none	none

Note: The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity). Severity categories rankings do not allow comparisons between classes.

Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H225: Highly flammable liquid and vapor
	H317: May cause an allergic skin reaction H319: Causes serious eye irritation H336: May cause drowsiness or dizziness
No Symbol Mandated	H402: Harmful to aquatic life
Prevention	Precautionary Statements
P102	Keep out of reach of children.

Safety Data Sheet

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P210	Keep away from heat, hot surfaces, sparks, open flames, and other ignition sources. No smoking.
P261, P271	Avoid breathing vapors. Use only outdoors or in a well-ventilated area.
P233	Keep container tightly closed.
P272	Contaminated work clothing should not be allowed out of the workplace.
P280	Wear protective gloves and eye protection.
P264	Wash hands thoroughly after handling.
P273	Avoid release to the environment.
Response	Precautionary Statements
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P303 + P364 + P352	IF ON SKIN (or hair): Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water.
P333 + P313	If skin irritation or rash occurs: Get medical advice or attention.
P304 + P340, P312	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTRE or doctor if you feel unwell.
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 or attention.
Storage	Precautionary Statements
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50°C [122°F].
P403	Store in a well-ventilated place.
Disposal	Precautionary Statements
P403 + P235	Store in well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	Precautionary Statements
P501	Dispose of contents and container in accordance to local, regional, national, and international regulations.

Hazards Not Otherwise Classified			
Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Defats skin	Repeated exposure may cause skin dryness or cracking.	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
123-86-4	n-butyl acetate	54%
78-93-3	butan-2-one ^{a)}	12%
108-65-6	1-methoxy-2-propanol acetate	4%
1333-86-	carbon black	3%
8052-41-	Stoddard solvent	2%
80-62-6	methyl methacrylate	0.1%
97-88-1	n-butyl methacrylate	0.1%

a) Also known as methyl ethyl ketone (MEK)

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Section 4: First-Aid Measures

Exposure Condition	GHS Code/Symptoms/Precautionary Statements
IF ON SKIN (or hair)	P303 + P361 + P352, P333 + P313, P363
Immediate Symptoms	Redness, mild irritation, dry skin
Response	Take off immediately all contaminated clothing. Wash with plenty of water or shower. If skin irritation or rash occurs: Get medical advice or attention. Wash contaminated clothing before reuse.
IF INHALED	P304 + P340, P312
Immediate Symptoms	Dizziness, drowsiness, cough, sore throat, headaches, nausea
Response	Remove person to fresh air and keep comfortable for breathing. If you feel unwell: Call a doctor.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	Redness, severe irritation, pain
Response	Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	Low toxicity: nausea, sore throat, diarrhea, drowsiness, dizziness, vomiting
Response	Rinse mouth. Do NOT induce vomiting.

Section 5: Fire-Fighting Measures

Extinguishing Media	: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
Specific Hazards	: The liquid may float on water and ignite. The vapors are heavier than air and may accumulate in lowlying areas. Vapors may travel long distances and ignite at an ignition source, which can cause a flashback or an explosion.
Combustion Products	: Produces carbon oxides (CO, CO ₂).
Fire-Fighter	: Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

Section 6: Accidental Release Measures

Personal Protection	: See personal protection recommendations in Section 8.
Precautions for Response	: Avoid breathing the mist, spray, and vapors. Remove or keep away all sources of extreme heat or open flames.
Environmental Precautions	: Avoid releasing to the environment. Prevent spill from entering drains and waterways.
Containment	: Not applicable
Cleaning	: Collect liquid in a sealable, solvent-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wash spill area with soap and water to remove the last traces of residue.
Disposal	: Dispose of spill waste according to Section 13.

Section 7: Handling and Storage

Prevention

: Keep out of reach of children.
Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
Keep container tightly closed. Avoid breathing vapors. Use only outdoors or in a well-ventilated area.

Handling

: Wear protective gloves and eye protection.
Take off contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.
Wash hands thoroughly after handling.
Avoid release to the environment.

Storage

: Store in well-ventilated place. Keep cool.
Store locked up.

Section 8: Exposure Controls/Personal Protection

Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
n-butyl acetate	ACGIH	150 ppm	Not established
	U.S.A. OSHA PEL	150 ppm	Not established
	Canada AB	150 ppm	200 ppm
	Canada BC	20 ppm	200 ppm
	Canada ON	150 ppm	Not established
	Canada QC	150 ppm	200 ppm
butan-2-one	ACGIH	200 ppm	125 ppm
	U.S.A. OSHA PEL	200 ppm	300 ppm
	Canada AB	200 ppm	300 ppm
	Canada BC	50 ppm	100 ppm
	Canada ON	200 ppm	300 ppm
	Canada QC	150 ppm	300 ppm
1-methoxy-2-propanol acetate	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	50 ppm	Not established
	Canada AB	Not established	Not established
	Canada BC	50 ppm	75 ppm
	Canada ON	50 ppm	Not established
	Canada QC	Not established	Not established
carbon black ^{a)}	ACGIH	3.5 mg/m ³	Not established
	U.S.A. OSHA PEL	3.5 mg/m ³	Not established
	Canada AB	3.5 mg/m ³	Not established
	Canada BC	3 mg/m ³	Not established
	Canada ON	3.5 mg/m ³	Not established
	Canada QC	3.5 mg/m ³	Not established

Safety Data Sheet

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Stoddard solvent	ACGIH	100 ppm	Not established
	U.S.A. OSHA PEL	500 ppm	Not established
	Canada AB	100 ppm	Not established
	Canada BC	290 mg/m ³	580 mg/m ³
	Canada ON	100 ppm	Not established
	Canada QC	100 ppm	Not established
methyl methacrylate	ACGIH	50 ppm (S)	100 ppm
	U.S.A. OSHA PEL	100 ppm	Not established
	Canada AB	50 ppm	100 ppm
	Canada BC	50 ppm (S)	100 ppm
	Canada ON	50 ppm	100 ppm
	Canada QC	100 ppm	Not established
n-butyl methacrylate	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	Not established	Not established
	Canada AB	Not established	Not established
	Canada BC	50 ppm	Not established
	Canada ON	Not established	Not established
	Canada QC	Not established	Not established

Note: The ACGIH1, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database2 and from suppliers' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

a) Respirable airborne particles S-Sensitizer

Engineering Controls

Ventilation

: Keep airborne concentrations below the occupational exposure limits (OEL).
Because the carbon black is bound to the liquid mixture, it does not present an airborne hazard under normal use. Ensure adequate ventilation if the product is mechanically misted or aerosolized.

Personal Protective Equipment

Eye protection

: Wear appropriate protective eyeglasses or chemical safety goggles.
RECOMMENDATION: Use safety glasses with lateral protection (side shields).

Skin Protection

: For likely contacts, use of protective butyl rubber, neoprene, or other chemically resistant gloves.
For incidental contacts, use nitrile, polyvinyl alcohol (PVA) or other chemically resistant gloves.

Respiratory Protection

: For over-exposures up to 10 x OEL of vapors, wear respirator such as a half-mask respirator with organic vapor cartridges.
Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.
RECOMMENDATION: Consult your local safety supply store to ensure that your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in Section 3. The respirator should be fitted to the employee by a professional. Ensure vapor cartridges are stored in sealed plastic bags when not being used.

General Hygiene Considerations

Wash hands thoroughly with water and soap after handling.

Section 9: Physical and Chemical Properties

Physical State	Liquid	Lower Flammability Limit ^{c)}	2.5%
Appearance	Black	Upper Flammability Limit ^{c)}	9.2%
Odor	Fruity	Vapor Pressure @20°C	40 hPa [31 mmHg]
Odor Threshold	0.007 ppm	Vapor Density	≥2.5 (Air =1)
pH	Not available	Relative Density @25°C	0.93
Freezing/Melting Point	Not available	Solubility in Water	Slightly soluble
Initial Boiling Point ^{a)}	≥80°C [≥176°F]	Partition Coefficient n-octanol/water	Not available
Flash Point ^{a)}	-3°C [26.6°F]	Auto-ignition Temperature ^{d)}	315°C [599°F]
Evaporation Rate	<1 (ButAc = 1)	Decomposition Temperature	Not available
Flammability	Highly Flammable	Viscosity @25°C	110 mm ² /s

a) Values based on butan-2-one component.

b) Pensky-Martens closed cup

c) Calculated based on components.

d) Values based on 1-methoxy-2-propanol acetate, which is the component with the lowest auto-ignition value.

Section 10: Stability and Reactivity

Reactivity	: Not available
Chemical Stability	: Chemically stable at normal temperatures and pressures.
Conditions to Avoid	: Ignition sources, excessive heat, and incompatible substances.
Incompatibilities	: Strong oxidizing agents, strong acids
Polymerization	: Will not occur
Decomposition	: Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes	: May cause redness, severe irritation, or pain.
Skin	: May cause skin redness, mild irritation, and dry skin.
Inhalation	: May cause dizziness, drowsiness, cough, sore throat, headaches, and nausea.
Ingestion	: May cause nausea, sore throat, diarrhea, or vomiting (see inhalation symptoms).
Chronic	: Prolonged or repeated exposure may cause skin dryness, cracking, as well as defatting the skin. May also cause skin allergies.

Acute Toxicity (Lethal Exposure Concentrations)			
Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
n-butyl acetate	>10 768 mg/kg Rat	>17 600 mg/kg Rabbit	390 ppm 4 h Rat
butan-2-one	2 737 mg/kg Rat	6 480 mg/kg Rabbit	23 500 mg/m ³ 8 h Rat
1-methoxy-2-propanol acetate	8 532 mg/kg Rat	>5 g/kg Rabbit	Not available
carbon black	>15 g/kg Rat	>3 g/kg Rabbit	Not available
Stoddard solvent	>5 000 mg/kg Rat	>3 000 mg/kg Rat	14 000 ppm 8 h Rat
methyl methacrylate	7 872 mg/kg Rat	>5 000 mg/kg Rabbit	78 000 mg/m ³ 4 h Rat
n-butyl methacrylate	16 000 mg/kg Rat	113 000 µL/kg Rabbit	29.8 mg/L 4 h Rat

Note: Toxicity data from the RTECS² and ECHA were consulted. The data from supplier SDS were also consulted.

Other Toxicological Effects

Skin corrosion/irritation	: Based on available data, the classification criteria are not met.
Serious eye damage/irritation	: Butan-2-one is a known serious eye irritant.
Sensitization (allergic reactions)	: The methyl methacrylate and n-butyl methacrylate may cause skin sensitization according to animal studies.
Carcinogenicity (risk of cancer)	: The carbon black [1333-86-4] is possibly carcinogenic by airborne routes of exposures under WHMIS. Because the carbon black is bound in the liquid mixture, it is not available as an airborne hazard (dust) under normal use. Carbon Black [1333-86-4] IARC Group 2B: Possibly carcinogenic to humans ACGIH A4: Not classified as a human carcinogen CA Prop 65: Listed as a carcinogen (airborne, as unbound particles of respirable size) NTP: Not listed
Mutagenicity (risk of heritable genetic effects)	: Based on available data, the classification criteria are not met.
Reproductive Toxicity (risk to sex functions)	: Based on available data, the classification criteria are not met.
Teratogenicity (risk of fetus malformation)	: Based on available data, the classification criteria are not met.
STOT-single exposure	: The n-butyl acetate, butan-2-one, Stoddard solvent, methyl methacrylate, and n-butyl methacrylate components can affect the central nervous system by inhalation causing drowsiness or dizziness.
STOT-repeated exposure	: Based on available data, the classification criteria are not met.
Aspiration hazard	: Based on available data, the classification criteria are not met. Contains less than 10% components of category 1, and the mixture has a kinematic viscosity of >20.5 mm ² /s at 40°C.

Section 12: Ecological Information

Ecological classifications are based on the IMDG/GHS criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<http://echa.europa.eu>), and other reliable sources.

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The n-butyl acetate ingredient is hazardous to the aquatic environment with an acute category 3 environmental classification. It is biodegradable, with minimal LC50 of 18 mg/L for Pimephales promelas (fathead minnow).

Based on available data, 2-butanone (MEK) ingredient is not classified as an environmental hazard according to GHS criteria.

The 1-methoxy-2-propanol acetate component is hazardous to the aquatic environment with an acute category 3 classification with minimal LC50 96 h of ≥ 100 mg/L for *Salmo gairdneri*.

Based on available data, carbon black is not classified as an environmental hazard according to GHS criteria.

The Stoddard solvent is hazardous to the aquatic environment with a chronic category 2 classification..

Acute Ecotoxicity

Category 3

Harmful to aquatic life

Avoid release to the environment.

Chronic Ecotoxicity

Available toxicity data does not meet classification thresholds.

Biodegradability

Expected to be biodegradable. The volatile solvent constituents will oxidize rapidly in air by photochemical reaction.

Other Effects


Volatile Organic Compounds (VOC) = 73% (678 g/L)

Section 13: Disposal Considerations


Dispose of contents in accordance with all local, regional, national, and international regulations.

Section 14: Transport Information

Ground

Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); USA DOT 49 CFR (Parts 100 to 185) Regulations.	
Sizes 30 mL and under 419D-P-BK Excepted Quantity Code E2 	UN number: UN1950 Shipping Name: AEROSOL, flammable Class: 2.1 Packing Group: Not applicable Marine Pollutant: No


Air

Refer to ICAO-IATA Dangerous Goods Regulations.	
Sizes 30 mL and under 419D-P-BK Excepted Quantity Code E2 On air waybill, write: "Dangerous Goods in Excepted Quantities". 	UN number: UN1263 Shipping Name: PAINT Class: 3 Packing Group: II Marine Pollutant: No

Safety Data Sheet

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Sea

Refer to IMDG regulations.	
Sizes 30 mL and under 419D–P-BK Excepted Quantity Code E2 In transport document, write: "Dangerous Goods in Excepted Quantities".	 UN number: UN1263 Shipping Name: PAINT Class: 3 Packing Group: II Marine Pollutant: No

Note: Shipper must be appropriately trained and certified before involvement with the transport of dangerous goods.

Section 15: Regulatory Information

Canada

Domestic Substance List (DSL)/Non-Domestic Substance Lists (NDSL)

All hazardous ingredients are listed on the DSL/NDSL.

Hazardous Products Act (R.S.C., 1985, c. H-3)

The safety data sheet and label comply with the Hazardous Product Act and WHMIS 2015.

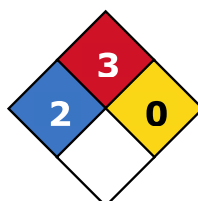
USA

Other Classifications

HMIS® RATING

HEALTH:	* 2
FLAMMABILITY:	3
PHYSICAL HAZARD:	0
PERSONAL PROTECTION:	

NFPA® 704 CODES



Approximate HMIS and NFPA Risk Ratings Legend:

0 (Low or none); 1 (Slight); 2 (Moderate); 3 (Serious); 4 (Severe)

CAA (Clean Air Act, USA)

This product does not contain any class 1 ozone depleting substances.

This product does not contain any class 2 ozone depleting substances.

This product does not contain substances that are listed as hazardous air pollutants.

EPCRA (Emergency Planning and Right to Know Act, USA, 40 CFR 372.45)

This product contains n-butyl acetate (CAS# 123-86-4) and butan-2-one (CAS# 78-93-3), which can be subject to the CERCLA reporting requirements at a threshold of 5 000 lb (2 268 kg).

This product contains methyl methacrylate (CAS# 80-62-6), which can be subject to the CERCLA reporting requirements at a threshold of 1 000 lb (454 kg).

OVERCOAT PEN—BLACK

TSCA (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity)

This product contains carbon black, but it is bound and exposures during normal conditions of uses are below the Safe Harbor Threshold.

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Europe

RoHS (Restriction of Hazardous Substances Directive)

This product does not contain any lead, cadmium, mercury, hexavalent chromium, PBB's, PBDE's, DEHP, BBP, DBP, or DIBP and complies with European RoHS regulations.

WEEE (Waste Electrical and Electronic Equipment Directive)

This product is not a piece of electrical or electronics equipment and is therefore not governed by this regulation.

Section 16: Other Information

SDS Prepared by	: Regulatory Department
Date of Revision	: 26 November 2020
Supersedes	: 07 November 2018
Reason for Changes	: Update to the emergency phone number information and general revisions.

References

1) ACGIH 2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental Industrial Hygienists Cincinnati, OH (2017).

2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®), MDL Information Systems, Inc.

Abbreviations

ACGIH	: American Conference of Governmental Industrial Hygienists (USA)
EC50	: Half maximal effective concentration
EL50	: Half maximal effective loading
NOELR	: No observable effect loading ratio
GHS	: Globally Harmonized System of Classification of Labeling of Chemicals
LC50	: Lethal Concentration 50%
LCLo	: Lowest published lethal concentration
LD50	: Lethal Dose 50%
PEL	: Permissible Exposure Limit
STEL	: Short-Term Exposure Limit
TCLo	: Lowest published toxic concentration
TWA	: Time Weighted Average
VOC	: Volatile Organic Content

Part Number

MP014032

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