

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

### · 1.1 Product identifier

- **Trade name: 419D-P-BK**
  - **Other Means of Identification:** Overcoat Pen-Black
  - **Related Part Number:** 419D-P-BK
  - **UFI:** KPC0-Q0H4-W00D-CJQ6

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

- **Application of the substance / the mixture** Protective coating for printed circuit boards.
- **Uses advised against** Not available

### · 1.3 Details of the supplier of the safety data sheet

#### · **Manufacturer/Supplier:**

MG Chemicals Ltd. (Head Office)  
1210 Corporate Drive  
Burlington, Ontario L7L 5R6  
CANADA  
+(1) 905-331-1396  
info@mgchemicals.com

MG Chemicals  
Heame House, 23 Bliston Street  
Sedgely Dudley DY3 1JA.  
United Kingdom  
+(44) 1663 362888

MG Chemicalst Ltd.  
Level 2, Vision Exchange, Building Territorials Street,  
Zone 1, Central Business, District,  
Birkirkara CBD 1070,  
MALTA

- **Further information obtainable from:** sds@mgchemicals.com

### · 1.4 Emergency telephone number:

Members of the public seeking specific information on poisons should contact:  
In England and Wales: NHS 111 - dial 111  
In Scotland: NHS 24 - dial 111

Verisk 3E (Access code: 335388)  
+(44) 20 3514787  
+(1) 760 476 3961  
UK Toll free: +(0) 800 680 0425

## SECTION 2: Hazards identification

### · 2.1 Classification of the substance or mixture

- **Classification according to Regulation (EC) No 1272/2008**



GHS02 flame

Flam. Liq. 2 H225 Highly flammable liquid and vapour.

Trade name: 419D-P-BK

(Contd. of page 1)



GHS07

Eye Irrit. 2 H319 Causes serious eye irritation.  
Skin Sens. 1 H317 May cause an allergic skin reaction.  
STOT SE 3 H336 May cause drowsiness or dizziness.

· **2.2 Label elements**

· **Labelling according to Regulation (EC) No 1272/2008**

The product is classified and labelled according to the GB CLP regulation.

· **Hazard pictograms**



GHS02 GHS07

· **Signal word** Danger

· **Hazard-determining components of labelling:**

n-butyl acetate  
Butan-2-one  
Carbon black  
methyl methacrylate

· **Hazard statements**

H225 Highly flammable liquid and vapour.  
H319 Causes serious eye irritation.  
H317 May cause an allergic skin reaction.  
H336 May cause drowsiness or dizziness.

· **Precautionary statements**

P102 Keep out of reach of children.  
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.  
P235 Keep cool.  
P261 Avoid breathing vapours.  
P280 Wear protective gloves / eye protection.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P333+P313 If skin irritation or rash occurs: Get medical advice.

· **Additional information:**

EUH066 Repeated exposure may cause skin dryness or cracking.

· **2.3 Other hazards**

· **Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

· **Determination of endocrine-disrupting properties**

78-93-3	Butan-2-one	List II
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## SECTION 3: Composition/information on ingredients

· **3.2 Mixtures**

· **Description:** Mixture of substances listed below with nonhazardous additions.

(Contd. on page 3)

**Trade name: 419D-P-BK**

(Contd. of page 2)

· <b>Dangerous components:</b>		
CAS: 123-86-4 EINECS: 204-658-1 Index number: 607-025-00-1	n-butyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336, EUH066	54.0%
CAS: 78-93-3 EINECS: 201-159-0 Index number: 606-002-00-3	Butan-2-one ⚠ Flam. Liq. 2, H225; ⚠ Eye Irrit. 2, H319; ⚠ STOT SE 3, H336, EUH066	12.0%
CAS: 108-65-6 EINECS: 203-603-9 Index number: 607-195-00-7	2-methoxy-1-methylethyl acetate ⚠ Flam. Liq. 3, H226; ⚠ STOT SE 3, H336	4.0%
CAS: 1333-86-4 EINECS: 215-609-9	Carbon black ⚠ Carc. 2, H351	3.0%
CAS: 8052-41-3 EINECS: 232-489-3 Index number: 649-345-00-4	Stoddard solvent ⚠ Flam. Liq. 3, H226; ⚠ STOT RE 1, H372; ⚠ Asp. Tox. 1, H304	2.0%
CAS: 80-62-6 EINECS: 201-297-1 Index number: 607-035-00-6	methyl methacrylate ⚠ Flam. Liq. 2, H225; ⚠ Skin Irrit. 2, H315; ⚠ Skin Sens. 1, H317; ⚠ STOT SE 3, H335	0.1%
CAS: 97-88-1 EINECS: 202-615-1 Index number: 607-033-00-5	n-butyl methacrylate ⚠ Flam. Liq. 3, H226; ⚠ Skin Irrit. 2, H315; ⚠ Eye Irrit. 2, H319; ⚠ Skin Sens. 1, H317; ⚠ STOT SE 3, H335	0.1%

· **Additional information:** For the wording of the listed hazard phrases refer to section 16.

## SECTION 4: First aid measures

### · 4.1 Description of first aid measures

#### · **After inhalation:**

Remove person to fresh air and keep comfortable for breathing.  
If feeling unwell: Call a POISON CENTRE or doctor.

#### · **After skin contact:**

Take off immediately all contaminated clothing.  
Wash with plenty of soap and water.

#### · **After eye contact:**

Rinse cautiously with water for 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

If eye irritation persists: Get medical advice or attention.

#### · **After swallowing:**

Rinse mouth.  
Do NOT induce vomiting.  
If symptoms persist consult doctor.

### · 4.2 Most important symptoms and effects, both acute and delayed

No further relevant information available.

### · 4.3 Indication of any immediate medical attention and special treatment needed

No further relevant information available.

Trade name: 419D-P-BK

(Contd. of page 3)

## SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
  - **Suitable extinguishing agents:**  
CO<sub>2</sub>, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **5.2 Special hazards arising from the substance or mixture**

Vapors are heavier than air. Vapors may travel to sources of ignition near the ground. They can cause flash fire or ignite explosively.  
Prevent fire-fighting wash from entering waterway or sewer system.

  - **Hazardous combustion products:** Carbon Oxides (CO<sub>x</sub>)
- **5.3 Advice for firefighters**
  - **Protective equipment:** Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

## SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.  
Ensure adequate ventilation  
Remove or keep away all sources of extreme heat or open flames.  
Avoid breathing mist, spray, or vapors.
- **6.2 Environmental precautions:** Do not allow to enter sewers/ surface or ground water.
- **6.3 Methods and material for containment and cleaning up:**

Ensure adequate ventilation.  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Collect liquid in a sealable, chemical-resistant container.  
Wash residue with a paper towel and place dirty towels in container.  
Use soap and water to remove the last traces of residue.
- **6.4 Reference to other sections**

See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**

Wear protective gloves and eye protection.  
Wash hands and exposed skin thoroughly after handling.  
Take off contaminated clothing and wash it before reuse.  
Contaminated work clothing should not be allowed out of the workplace.  
Avoid breathing mist, spray, or vapors.  
Use only outdoors or in a well-ventilated area.

  - **Information about fire - and explosion protection:** Keep ignition sources away - Do not smoke.
- **7.2 Conditions for safe storage, including any incompatibilities**
  - **Storage:**
    - **Requirements to be met by storerooms and receptacles:**  
Store in a cool location.  
Keep in a dry and clean area, away from incompatible substances
    - **Information about storage in one common storage facility:** Not required.

(Contd. on page 5)

Trade name: 419D-P-BK

(Contd. of page 4)

- **Further information about storage conditions:**  
Keep container tightly sealed.  
Store in cool, dry conditions in well sealed receptacles.  
Store locked up.

- **7.3 Specific end use(s)** See section 1.2

## SECTION 8: Exposure controls/personal protection

### · 8.1 Control parameters

· <b>Ingredients with limit values that require monitoring at the workplace:</b>	
<b>123-86-4 n-butyl acetate</b>	
WEL	Short-term value: 966 mg/m <sup>3</sup> , 200 ppm Long-term value: 724 mg/m <sup>3</sup> , 150 ppm
<b>78-93-3 Butan-2-one</b>	
WEL	Short-term value: 899 mg/m <sup>3</sup> , 300 ppm Long-term value: 600 mg/m <sup>3</sup> , 200 ppm Sk, BMGV
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>	
WEL	Short-term value: 548 mg/m <sup>3</sup> , 100 ppm Long-term value: 274 mg/m <sup>3</sup> , 50 ppm Sk
<b>1333-86-4 Carbon black</b>	
WEL	Short-term value: 7 mg/m <sup>3</sup> Long-term value: 3.5 mg/m <sup>3</sup>
<b>80-62-6 methyl methacrylate</b>	
WEL	Short-term value: 416 mg/m <sup>3</sup> , 100 ppm Long-term value: 208 mg/m <sup>3</sup> , 50 ppm
· <b>Ingredients with biological limit values:</b>	
<b>78-93-3 Butan-2-one</b>	
BMGV	70 µmol/L Medium: urine Sampling time: post shift Parameter: butan-2-one

- **Additional information:**  
The lists valid during the making were used as basis.  
Refer to the national or regional occupational exposure limit regulation for abbreviations and acronyms.

### · 8.2 Exposure controls

- **Appropriate engineering controls** No further data; see section 7.
- **Individual protection measures, such as personal protective equipment**
  - **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing  
Wash hands before breaks and at the end of work.  
Avoid contact with the eyes and skin.
  - **Respiratory protection:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device.  
Advice should be sought from respiratory protection specialists.  
If the product is heated or worker has a known allergic reaction, consider using a full mask with organic vapor cartridge or with an independent air supply.

(Contd. on page 6)

**Trade name: 419D-P-BK**

(Contd. of page 5)

· **Hand protection**

Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.



Protective gloves: EN374

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

· **Eye/face protection**



Safety glasses or tightly sealed goggles: EN 166

## SECTION 9: Physical and chemical properties

### · 9.1 Information on basic physical and chemical properties

· <b>Physical state</b>	Liquid
· <b>Form:</b>	Viscous
· <b>Colour:</b>	Black
· <b>Odour:</b>	Fruit-like
· <b>Odour threshold:</b>	Not determined.
· <b>Melting point/freezing point:</b>	Undetermined.
· <b>Boiling point or initial boiling point and boiling range</b>	≥80 °C
· <b>Flammability</b>	Highly flammable.
· <b>Lower and upper explosion limit</b>	
· <b>Lower:</b>	2.5 Vol %
· <b>Upper:</b>	9.2 Vol %
· <b>Flash point:</b>	-3 °C
· <b>Auto-ignition temperature:</b>	≥315 °C
· <b>Decomposition temperature:</b>	Not determined.
· <b>pH</b>	Not determined.
· <b>Viscosity:</b>	
· <b>Dynamic:</b>	Not determined.
· <b>Solubility</b>	
· <b>water:</b>	Partly miscible.
· <b>Partition coefficient n-octanol/water (log value)</b>	Not determined.
· <b>Vapour pressure at 20 °C:</b>	105 hPa (78-93-3 Butan-2-one)
· <b>Vapour pressure at 50 °C:</b>	55 hPa
· <b>Relative density at 25 °C:</b>	0.93
· <b>Vapour density (air=1):</b>	>2.5

(Contd. on page 7)

Trade name: 419D-P-BK

(Contd. of page 6)

· Particle characteristics	Not applicable.
· 9.2 Other information	
· 9.2.1 Information with regard to physical hazard classes	
· Flammable liquids	Highly flammable liquid and vapour.
· 9.2.2 Other safety characteristics	
· Evaporation rate	Not determined. <1 (ButAc=1)
· Ignition temperature:	Product is not selfigniting.
· Explosive properties:	Product is not explosive. However, formation of explosive air/vapour mixtures are possible.
· Solvent content:	
· Organic solvents:	70.00 %
· VOC (EC)	70.00 %
· Solids content:	27.8 %

## SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability** Chemically stable at normal temperatures and pressures.
  - **Thermal decomposition / conditions to be avoided:**  
No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid**  
Avoid open flames, excessive heat, sparks, ignition sources, and incompatible substances.
- **10.5 Incompatible materials:**  
Strong oxidizing agents  
Strong acids
- **10.6 Hazardous decomposition products:**  
No dangerous decomposition products known.  
Hazardous combustion products: see section 5.

## SECTION 11: Toxicological information

- **11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008**
  - **Acute toxicity** Based on available data, the classification criteria are not met.

· LD/LC50 values relevant for classification:		
<b>123-86-4 n-butyl acetate</b>		
Oral	LD50	>10,768 mg/kg (rat)
Dermal	LD50	>17,600 mg/kg (rabbit)
Inhalative	LC50/4 h	>21 mg/L (rat)
<b>78-93-3 Butan-2-one</b>		
Oral	LD50	2,737 mg/kg (rat)
Dermal	LD50	6,480 mg/kg (rabbit)

(Contd. on page 8)

**Trade name: 419D-P-BK**

(Contd. of page 7)

Inhalative	LC50/ 8 h	23,500 mg/m <sup>3</sup> (rat)
<b>108-65-6 2-methoxy-1-methylethyl acetate</b>		
Oral	LD50	8,532 mg/kg (rat)
Dermal	LD/50	5 g/kg (rabbit)
Inhalative	LC50/4 h	35.7 mg/L (rat)
<b>1333-86-4 Carbon black</b>		
Oral	LD50	>15,400 mg/kg (rat)
Dermal	LD50	>3,000 mg/kg (rabbit)
<b>80-62-6 methyl methacrylate</b>		
Oral	LD50	7,872 mg/kg (rat)
<b>97-88-1 n-butyl methacrylate</b>		
Oral	LD50	22,600 mg/kg (rat)
Dermal	LD50	11,300 mg/kg (rabbit)
Inhalative	LC50/4 h	4,910 mg/L (rat)

- **Primary irritant effect:**
  - **Skin corrosion/irritation** Based on available data, the classification criteria are not met.
  - **Serious eye damage/irritation** Causes serious eye irritation.
- **Respiratory or skin sensitisation** May cause an allergic skin reaction.
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** May cause 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.
- **Summary of Effects and Symptoms by Routes of Exposure**
  - **Eyes:**  
redness, serious irritation  
pain
  - **Skin:**  
rash, allergic contact dermatitis  
dry skin  
redness, may cause mild irritation
  - **Inhalation:**  
dizziness or drowsiness  
cough  
sore throat  
headache  
nausea
  - **Swallowed:**  
vomiting  
see inhalation symptoms
- **Additional toxicological information:**
  - **Delayed and immediate effects as well as chronic effects from short and long-term exposure**  
Prolonged or repeated exposure may defat skin and cause skin dryness and cracking, and local redness and discomfort.  
Prolonged or repeated exposure may cause skin allergies.

(Contd. on page 9)

Trade name: 419D-P-BK

(Contd. of page 8)

· **11.2 Information on other hazards**

· <b>Endocrine disrupting properties</b>		
78-93-3	Butan-2-one	List II

## SECTION 12: Ecological information

· **12.1 Toxicity**

· <b>Aquatic toxicity:</b>	
<b>123-86-4 n-butyl acetate</b>	
LC50 96h	18 mg/L (minnow)
<b>1333-86-4 Carbon black</b>	
EC50/ 24 h	>5,600 mg/L (aquatic invertebrates)
EC50/ 72 h	>10,000 mg/L (aquatic algae and cyanobacteria)
EC0/ 3 h	>800 mg/L (microorganisms)
LC50	>1,000 mg/L (fish)

· **12.2 Persistence and degradability** No further relevant information available.

· **12.3 Bioaccumulative potential** No further relevant information available.

· **12.4 Mobility in soil** No further relevant information available.

· **12.5 Results of PBT and vPvB assessment**

- **PBT:** Not applicable.
- **vPvB:** Not applicable.

· **12.6 Endocrine disrupting properties** For information on endocrine disrupting properties see section 11.

· **12.7 Other adverse effects**

· **Additional ecological information:**

· **General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.

## SECTION 13: Disposal considerations

· **13.1 Waste treatment methods**

· **Recommendation** This material and its container must be disposed of as hazardous waste.

· <b>European waste catalogue</b>	
HP3	Flammable
HP5	Specific Target Organ Toxicity (STOT)/Aspiration Toxicity

· **Uncleaned packaging:**

· **Recommendation:**

Containers may still present a chemical hazard/ danger when empty.  
Dispose of contents in accordance with all local, regional, national, and international regulations.  
Where possible retain label warnings and SDS and observe all notices pertaining to the product.



(Contd. on page 10)

Trade name: 419D-P-BK

(Contd. of page 9)

· **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

## SECTION 14: Transport information

· <b>14.1 UN number or ID number</b> · ADR, IMDG, IATA	UN1263
· <b>14.2 UN proper shipping name</b> · ADR, IMDG · IATA	PAINT Paint
· <b>14.3 Transport hazard class(es)</b> · ADR, IMDG, IATA	 · Class 3 Flammable liquids. · Label 3
· <b>14.4 Packing group</b> · ADR, IMDG, IATA	II
· <b>14.5 Environmental hazards:</b>	Not applicable.
· <b>14.6 Special precautions for user</b> · Hazard identification number (Kemler code): · EMS Number: · Stowage Category	Not applicable. 33 F-E,S-E B
· <b>14.7 Maritime transport in bulk according to IMO instruments</b>	Not applicable.
· <b>Transport/Additional information:</b>	 Excepted Quantity
· <b>ADR</b> · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging: 500 ml
· <b>Transport category</b> · <b>Tunnel restriction code</b>	2 D/E
· <b>IMDG</b> · Limited quantities (LQ) · Excepted quantities (EQ)	5L Code: E2 Maximum net quantity per inner packaging: 30 ml Maximum net quantity per outer packaging:

(Contd. on page 11)

Trade name: 419D-P-BK

(Contd. of page 10)

500 ml
· UN "Model Regulation": UN 1263 PAINT, 3, II

## SECTION 15: Regulatory information

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

#### Poisons Act

· Regulated explosives precursors (Part 1)
None of the ingredients is listed.
· Regulated poisons (Part 2)
None of the ingredients is listed.
· Reportable explosives precursors (Part 3)
None of the ingredients is listed.
· Reportable poisons (Part 4)
None of the ingredients is listed.

#### Directive 2012/18/EU

- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category P5c FLAMMABLE LIQUIDS
- Qualifying quantity (tonnes) for the application of lower-tier requirements 5,000 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 50,000 t
- REGULATION (EC) No 1907/2006 ANNEX XVII Conditions of restriction: 3

· DIRECTIVE 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment – Annex II
None of the ingredients is listed.

### 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

## SECTION 16: Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

#### Relevant phrases

- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H335 May cause respiratory irritation.
- H336 May cause drowsiness or dizziness.
- H351 Suspected of causing cancer.
- H372 Causes damage to organs through prolonged or repeated exposure.
- EUH066 Repeated exposure may cause skin dryness or cracking.

(Contd. on page 12)

**Trade name: 419D-P-BK**

(Contd. of page 11)

· Classification according to Regulation (EC) No 1272/2008	
Flammable liquids	On basis of test data
Serious eye damage/irritation Skin sensitisation Specific target organ toxicity (single exposure)	The classification of the mixture is generally based on the calculation method using substance data according to Regulation (EC) No 1272/2008.

· **Department issuing SDS:** Regulatory department

· **Contact:** sds@mgchemicals.com

· **Date of previous version:** 10.07.2024

· **Version number of previous version:** 2.00

· **Abbreviations and acronyms:**

ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

GHS: Globally Harmonised System of Classification and Labelling of Chemicals

EINECS: European Inventory of Existing Commercial Chemical Substances

ELINCS: European List of Notified Chemical Substances

CAS: Chemical Abstracts Service (division of the American Chemical Society)

VOC: Volatile Organic Compounds (USA, EU)

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

PBT: Persistent, Bioaccumulative and Toxic

vPvB: very Persistent and very Bioaccumulative

ATE: Acute toxicity estimate values

Flam. Liq. 2: Flammable liquids – Category 2

Flam. Liq. 3: Flammable liquids – Category 3

Skin Irrit. 2: Skin corrosion/irritation – Category 2

Eye Irrit. 2: Serious eye damage/eye irritation – Category 2

Skin Sens. 1: Skin sensitisation – Category 1

Carc. 2: Carcinogenicity – Category 2

STOT SE 3: Specific target organ toxicity (single exposure) – Category 3

STOT RE 1: Specific target organ toxicity (repeated exposure) – Category 1

Asp. Tox. 1: Aspiration hazard – Category 1

· **\* Data compared to the previous version altered.**