**419DBK**

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

**Product Identifier:** 419DBK

**Other Means of Identification:** Acrylic Conformal Coating - Black

**Related Part #** 419DBK-4L

### Recommended Use and Restriction on Use

**Use:** Protective coating for printed circuit boards

**Uses Advised Against:** Not available

### Details of Manufacturer or Importer

**Manufacturer**
MG Chemicals
1210 Corporate Drive
Burlington, Ontario L7L 5R6
CANADA

☎ +1-800-340-0772
**Fax** +1-800-340-0773
**E-mail** support@mgchemicals.com
**Web** www.mgchemicals.com

**E-MAIL** (Competent Person): sds@mgchemicals.com

### Emergency Phone Number

**For hazardous material incidents ONLY** (leaks, spills, fires, exposures or accidents)
USA or CANADA—Call Verisk 3E at ***+1-866-519-4752*** or ***+1-760-476-3962***
(Service access code: 335388)

**For emergencies involving the transport of dangerous goods**; 24/7 service
CANADA—Call CANUTEC collect at ***+1-613-996-6666*** or ****666*** on cellular phones

## Section 2: Hazard(s) Identification

### Classification of Hazardous Chemical

#### GHS Categories

| Criteria | | Category | Signal Word | Pictograms |
|---|---|---|---|---|
| Flammable Liquid | | 2 | Danger | Flame |
| Sensitization | Skin | 1 | Warning | Exclamation |
| Irritation | Eye | 2A | Warning | Exclamation |
| Specific Target Organ Toxicity | Single Exposure | 3 | Warning | Exclamation |
| Specific Target Organ Toxicity | Repeated Exposure | 1 | Danger | Health hazard |
| Carcinogenicity | Inhalation | 2 | Warning | Health hazard |

*Note:* The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category 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 irritation<br>H319: Causes serious eye irritation<br>H335: May cause respiratory irritation |
|  | H351: Suspected of causing cancer<br>H372: Causes damage to central nervous symptom through prolonged or repeated exposure |

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| Prevention | Precautionary Statements |
|---|---|
| P203 | Obtain, read and follow all safety instructions before use. |
| P202 | Do not handle until all the safety precautions have been read and understood. |
| P102 | Keep reach out of children |
| P210 | Keep away from heat, hot surfaces, sparks, flames, and other ignition sources. No Smoking. |
| P233 | Keep container tightly closed. |
| P260 | Do not breathe mist, vapours, and sprays. |
| P271 | Use only outdoors or in a well-ventilated area. |
| P240 | Ground and bond container and receiving equipment. |
| P241 | Use explosion-proof electrical, ventilating, and lighting equipment. |
| P243 | Take precautionary measures against static discharge. |
| P270 | Do not eat, drink or smoke when using this product. |
| P272 | Contaminated work clothing should not be allowed out of the workplace. |
| P280 | Wear protective gloves, protective clothing, and eye protection. |
| P264 | Wash hands thoroughly after handling. |
| **Response** | **Precautionary Statements** |
| P370 + P378 | In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish. |
| P303 + P361 P352 | IF ON SKIN (or hair): Take off immediately all contaminated clothing. 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. |
| P308 + P313 | IF exposed or concerned: Get medical advice. |
| 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** |
| P403 + P235 | Store in a well-ventilated place. Keep cool. |
| P405 | Store locked up. |

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| Disposal | Precautionary Statements |
|---|---|
| P501 | Dispose of contents in accordance to local, regional, national, and international regulations. |

## Other Hazards

| 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 | 50% |
| 78-93-3 | butan-2-one [a)] | 14% |
| 1333-86-4 | carbon black | 4% |
| 8052-41-3 | Stoddard solvent | 2% |
| 80-62-6 | methyl methacrylate | 0.1–0.2% |
| 97-88-1 | n-butyl methacrylate | 0.1–0.2% |

a) Also known as methyl ethyl ketone (MEK)

## 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, rash, dry skin* |
| **Response** | Take off immediately all contaminated clothing. Wash with plenty of water or shower.<br>If skin irritation or rash occurs: Get medical advice or attention.<br>Wash contaminated clothing before reuse. |
| **IF INHALED** | P304 + P340, P308 + P313, P312 |
| **Immediate Symptoms** | *dizziness, drowsiness, cough, headaches, sore throat, nausea* |
| **Response** | Remove person to fresh air and keep comfortable for breathing.<br>IF exposed or concerned: Get medical advice.<br>Call a POISON CENTRE or doctor if you feel unwell. |
| **IF IN EYES** | P305 + P351 + P338, P337 + P313 |
| **Immediate Symptoms** | *redness, irritation, pain* |
| **Response** | Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.<br>If eye irritation persists: Get medical advice or attention. |
| **IF SWALLOWED** | P301 + P330, P331 |
| **Immediate Symptoms** | *nausea, sore throat, diarrhea, drowsiness, dizziness, vomiting* |
| **Response** | Rinse mouth. Do NOT induce vomiting. |

## Section 5: Fire-Fighting Measures

| | |
|---|---|
| **Extinguishing Media** | In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish. |
| **Specific Hazards** | The liquid may float on water and ignite.<br>The vapors are heavier than air and may accumulate in low-lying 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** | Do not breathe mist, spray, and vapors. Remove or keep away all sources of ignition or extreme heat. |
| **Containment Methods** | Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite). |
| **Cleaning Methods** | 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 Methods** | Dispose of spill waste according to Section 13. |

## Section 7: Handling and Storage

**Prevention**

Keep out of reach of children.

Obtain, read and follow all safety instructions before use. Do not handle until all the safety precautions have been read and understood.

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

Ground and bond container and receiving equipment. Use explosion-proof electrical, ventilating, and lighting equipment. Take precautionary measures against static discharge.

Keep container tightly closed.

Do not breathe mist, vapors, and spray. Use only outdoors or in a well-ventilated area.

Do not eat, drink or smoke when using this product.

**Handling**

Wear protective gloves, protective clothing, eye protection, and face protection.

Take off immediately contaminated clothing and wash it before reuse. Contaminated work clothing should not be allowed out of the workplace.

Wash hands thoroughly after handling.

**Storage**

Store in a well-ventilated place. Keep cool.

Store locked up.

## Section 8: Exposure Controls/Personal Protection

### Substances with Occupational Exposure Limit Values

| Chemical Name | Country/Province | Long Term Exposure Limits (PEL) | Short Term Exposure Limits (STEL) |
|---|---|---|---|
| n-butyl acetate | ACGIH | 50 ppm | 150 ppm |
| | 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 | 200 ppm |
| | Canada QC | 150 ppm | 200 ppm |
| butan-2-one | ACGIH | 200 ppm | 125 ppm |
| | U.S.A. OSHA PEL | 200 ppm | Not established |
| | Canada AB | 200 ppm | 300 ppm |
| | Canada BC | 50 ppm | 100 ppm |
| | Canada ON | 200 ppm | 300 ppm |
| | Canada QC | 50 ppm | 100 ppm |
| 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 $mg/m^3$ | 500 $mg/m^3$ |
| | Canada ON | 100 ppm | Not available |
| | Canada QC | 100 ppm | Not available |
| 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:* Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH[1], OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the suppliers' SDSs were also consulted. Short term exposure limits (STEL) are for 15 min and long-term permissible exposure limits (PEL) for 8 h.
S—Sensitizer

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## Engineering Controls

| | |
|---|---|
| **Ventilation** | Keep airborne concentrations below the occupational exposure limits (OEL). |

## Personal Protective Equipment

| | |
|---|---|
| **Eye protection** | Wear appropriate protective eyeglasses or chemical safety goggles.<br>**RECOMMENDATION:** Ensure that glasses have side shields for lateral protection. |
| **Skin Protection** | For likely contacts, use of protective butyl rubber or other chemically resistant gloves.<br>For incidental contacts, use nitrile or other chemically resistant gloves. |
| **Respiratory Protection** | For over-exposures up to 10 x OEL of mist, vapors, and spray, wear respirator such as a half-mask respirator with organic vapor cartridges.<br>Above 10 x OEL, use a positive-pressure, air-supplied respirator or a self-contained breathing apparatus.<br>**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) | 1.6% |
| **Appearance** | Clear | **Upper Flammability Limit** c) | 10.4% |
| **Odor** | Fruity | **Vapor Pressure @20 °C** c) | 24 hPa [18 mmHg] |
| **Odor Threshold** | Not available | **Vapor Density** | >2.5 (Air =1) |
| **pH** | Not available | **Relative Density @25 °C** | 0.94 |
| **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** b) | -9 °C [16 °F] | **Auto-ignition Temperature** d) | ≥230 °C [≥446 °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 n-butyl methacrylate, 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, open flames, 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, rash, and dry skin. |
| **Inhalation** | May cause dizziness, drowsiness, cough, headaches, sore throat or nausea. |
| **Ingestion** | May cause nausea, sore throat, diarrhea, or vomiting. |
| **Chronic** | Prolonged or repeated exposure may cause skin dryness, cracking, as well as defatting the skin.<br>Prolonged or repeated exposure may cause skin may cause skin allergies. |

### Acute Toxicity (Lethal Exposure Concentrations)

| Chemical Name | LD50 oral | LD50 dermal | LC50 inhalation |
|---|---|---|---|
| n-butyl acetate | >10 768 mg/kg<br>Rat | >17 600 mg/kg<br>Rabbit | 390 ppm<br>4 h Rat |
| butan-2-one | 2 737 mg/kg<br>Rat | 6 480 mg/kg<br>Rabbit | 23 234 mg/m$^3$<br>8 h Rat |
| carbon black | 15 400 mg/kg<br>Rat | 3 000 mg/kg<br>Rabbit | Not available |
| methyl methacrylate | 7 872 mg/kg<br>Rat | >5 000 mg/kg<br>Rabbit | 78 000 mg/m$^3$<br>4 h Rat |
| n-butyl methacrylate | 2 000 mg/kg<br>Rat | >5 000 µL/kg<br>Rabbit | 29 mg/L<br>4 h Rat |
| Mixture ATE | >5 000 mg/kg | >5 000 mg/kg | >20 mg/L |

*Note:* Toxicity data from the ECHA database were consulted. The data from supplier SDSs were also consulted.

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## 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 n-butyl methacrylate and methyl 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 2015 and HCS 2012.<br>**Carbon Black [1333-86-4]**<br>IARC Group 2B: Possibly carcinogenic to humans<br>ACGIH A4: Not classified as a human carcinogen<br>CA Prop 65: Listed as a carcinogen (airborne, as unbound particles of respirable size)<br>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, and 1-methoxy-2-propanol acetate components can affect the central nervous system by inhalation causing drowsiness or dizziness. |
| **STOT-repeated exposure** | Stoddard solvent, can affect the central nervous system by inhalation causing drowsiness or dizziness. |
| **Aspiration hazard** | Based on available data, the classification criteria are not met. There are no cat 1 substances. |

## 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.

The n-butyl acetate ingredient is an acute category 3 environmental toxicant (biodegradable, with minimal LC50 of 18 mg/L for fathead minnow).

The 2-butanone (MEK) ingredient is not classified as an environmental hazard according to GHS criteria.

### Acute Ecotoxicity

Available toxicity data does not meet classification thresholds.

### 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

Regulated Volatile Organic Compounds (VOC) content according to the US (EPA) and Canadian (CEPA) authorities.

VOC = 70% [661 g/L]

## Section 13: Disposal Information

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

## Section 14: Transport Information

### Ground

**Refer to TDG** (Canadian Transportation of Dangerous Goods regulations) and **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

| Sizes 5 L and under | Sizes greater than 5 L |
|---|---|
| *419DBK-4L*<br>**Limited Quantity**<br>  | **UN number**: UN1263<br>**Shipping Name:** PAINT<br>**Class:** 3<br>**Packing Group**: II<br>**Marine Pollutant:** No<br>  |

### Air

**Refer to ICAO-IATA Dangerous Goods Regulations.**

| Sizes 0.5 L and under | Sizes up to 5 L (passenger) or 60 L (cargo) |
|---|---|
| **Limited Quantity**<br>  <br>Max Net QTY/Pkg<br>1 L gross | *419DBK-4L*<br>**UN number**: UN1263<br>**Shipping Name**: PAINT<br>**Class**: 3<br>**Packing Group**: II<br>**Marine Pollutant**: No<br>  |

### Sea

**Refer to IMDG regulations.**

| Sizes 5 L and under | Sizes greater than 5 L |
|---|---|
| *419DBK-4L*<br>**Limited Quantity**<br>  | **UN number**: UN1263<br>**Shipping Name:** PAINT<br>**Class:** 3<br>**Packing Group**: II<br>**Marine Pollutant:** No<br>  |

*Note:* **Shipper must be appropriately <u>trained and certified</u> 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.

**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.

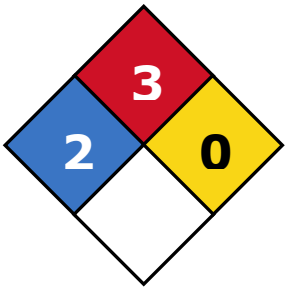
### USA

### 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 contains methyl methacrylate, which is listed as hazardous air pollutants.

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

This product contains methyl methacrylate (CAS# 80-62-6; reportable quantity = 1 000 lb), which is subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

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

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**TSCA** (Toxic Substances Control Act of 1976, USA)

All substances are TSCA listed.

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, USA).

This product contains carbon black, which is listed as a carcinogenic substance when airborne, as unbound particles of respirable size.

### 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 electronic equipment and is therefore not governed by this regulation.

## Section 16: Other Information

| | |
|---|---|
| **SDS Prepared by** | Regulatory Department |
| **Date of Revision** | 26 October 2022 |
| **Supersedes** | Not applicable |

**Reason for Changes:** New product

**Reference**

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 of Industrial Hygienist Cincinnati, OH (2017).

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# 419DBK

### *Abbreviations*

| | |
|---|---|
| ACGIH | American Conference of Governmental Industrial Hygienists (USA) |
| EC50 | Half maximal effective concentration |
| EL50 | Half maximal effective loading |
| IARC | International Agency for Research on Cancer |
| NOELR | No observable effect loading ratio |
| NTP | National Toxicology Program |
| GHS | Globally Harmonized System of Classification of Labeling of Chemicals |
| LC50 | Lethal Concentration 50% |
| LCLo | Lowest published lethal concentration |
| LD50 | Lethal Dose 50% |
| OEL | Occupational Exposure Limit |
| PEL | Permissible Exposure Limit |
| SDS | Safety Data Sheet |
| STEL | Short-Term Exposure Limit |
| TCLo | Lowest published toxic concentration |
| TWA | Time Weighted Average |
| VOC | Volatile Organic Content |
| Wt | Weight |

**Technical Queries**

Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAQs are located at www.mgchemicals.com.

Email: support@mgchemicals.com

Phone: +1-905-331-1396

**Mailing Addresses**

Manufacturing & Support
1210 Corporate Drive
Burlington, Ontario
Canada
L7L 5R6

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