

**TOTAL GROUND CARBON CONDUCTIVE COATING**

**838-AEROSOL**

# Safety Data Sheet

## Section 1: Identification

### Product Identifier and Other Means of Identification

**Product Name:** Total Ground™ Carbon Conductive Coating      **SDS Code:** 838-Aerosol

**Related Part #:** 838-340G

### Recommended Use and Restriction on Use

**Use:** Coats non-conductive surfaces to make them electrically conductive, preventing static buildups and providing EMI/RFI shielding

**Uses Advised Against:** Not available

### Details of Manufacturer or Importer

#### Manufacturer

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

MG Chemicals (Head Office)  
9347-193 Street  
Surrey, British Columbia V4N 4E7  
CANADA

**☎** +1-800-340-0772

**FAX** +1-800-340-0773

**E-MAIL** [support@mgchemicals.com](mailto:support@mgchemicals.com)

**WEB** [www.mgchemicals.com](http://www.mgchemicals.com)

**☎** +1-905-331-1396

**FAX** +1-905-331-2682

**E-MAIL** [info@mgchemicals.com](mailto:info@mgchemicals.com)

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

### Emergency Phone Number

**For hazardous material incidents ONLY**—leaks, spills, fires, exposures or accidents  
USA or CANADA: Call CHEMTREC ☎: **+1-800-424-9300**

**For emergencies involving dangerous goods;** Collect 24/7  
CANADA: Call CANUTEC ☎: **+1-613-996-6666** or **\*666** on cellular phones

**TOTAL GROUND CARBON CONDUCTIVE COATING**

**838-AEROSOL**

**Section 2: Hazard(s) Identification**

**Classification of Hazardous Chemical**

**GHS Categories**

| Criteria                       |                   | Category | Signal Word | Pictograms    |
|--------------------------------|-------------------|----------|-------------|---------------|
| Flammable Aerosol              |                   | 2        | Warning     | Flame         |
| Gas under pressure             | Liquefied gas     | 3        | Warning     | Gas Cylinder  |
| Eye Irritation                 |                   | 2A       | Warning     | Exclamation   |
| Specific Target Organ Toxicity | Single Exposure   | 3        | Warning     | Exclamation   |
| Carcinogenicity                |                   | 2        | Warning     | Health        |
| Specific Target Organ Toxicity | Repeated Exposure | 2        | Warning     | Health        |
| Reproductive Toxicity          |                   | 2        | Warning     | Health        |
| Environmental Hazard           | Acute Aqua. Tox.  | 3        | None        | None mandated |

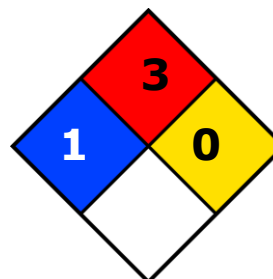
*Note:* The degree of severity is ranked within each hazard class from 1 (Highest Severity) to up to 5 (Lowest Severity), which is opposite to HMIS and NFPA conventions. Severity category rankings do not allow comparisons between classes.

**Other Classifications**

**HMIS® RATING**

|                             |            |
|-----------------------------|------------|
| <b>HEALTH:</b>              | * <b>1</b> |
| <b>FLAMMABILITY:</b>        | <b>3</b>   |
| <b>PHYSICAL HAZARD:</b>     | <b>0</b>   |
| <b>PERSONAL PROTECTION:</b> |            |

**NFPA® 704 CODES**



*Approximate HMIS and NFPA Risk Ratings Legend:*





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

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**TOTAL GROUND CARBON CONDUCTIVE COATING**

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**Label Elements**

| <b>Signal Word</b>  | <b>WARNING</b>   |
|---|--|
| <b>Pictograms</b>   | <b>Hazard Statements</b>   |
|    | H223: Flammable aerosol<br>H229: Pressurized Container may burst if heated   |
|    | H280: Contains gas under pressure; may explode if heated   |
|   | H351: Suspected of causing cancer<br>H361: Suspected of damaging fertility or the unborn child<br>H373: May cause damage to central nervous system or inner ear through prolonged or repeated exposure |
|  | H319: Causes serious eye irritation<br>H335: May cause respiratory irritation<br>H336: May cause drowsiness and dizziness  |
| <i>No symbol mandated</i>   | H402: Harmful to aquatic life  |
| <b>Prevention</b>   | <b>Precautionary Statements</b>  |
| P102  | Keep out of reach of children.   |
| P201  | Obtain special instructions before use.  |
| P202  | Do not handle until all safety precautions have been read and understood.  |
| P210  | Keep away from heat/sparks/open flames/hot surfaces and other ignition sources. No smoking.  |
| P211  | Do not spray on an open flame or other ignition source.  |
| P251  | Do not pierce or burn, even after use.   |
| P260  | Do not breathe mist/vapors/spray.  |

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**TOTAL GROUND CARBON CONDUCTIVE COATING 838-AEROSOL**

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| <b>Prevention</b>  | <b>Precautionary Statements</b>  |
|--------------------|--|
| P271               | Use only outdoors or in a well-ventilated area.  |
| P264               | Wash hands thoroughly after handling.  |
| P280               | Wear protective gloves/eye protection/face protection.   |
| P273               | Avoid release to the environment.  |
| <b>Response</b>    | <b>Precautionary Statements</b>  |
| 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 attention.   |
| P304 + P340        | IF INHALED: Remove person to fresh air and keep comfortable for breathing.   |
| P312               | Call a POISON CENTER/doctor if you feel unwell.  |
| P308 + P313        | If exposed or concerned: Get medical advice.   |
| <b>Storage</b>     | <b>Precautionary Statements</b>  |
| P410 + P412        | Protect from sunlight. Do not expose to temperatures exceeding 50 °C [122 °F].   |
| P403               | Store in well-ventilated area.   |
| P405               | Store locked up.   |
| <b>Disposal</b>    | <b>Precautionary Statements</b>  |
| P501               | Dispose of contents/container in accordance to local/regional/international regulations.   |

**Hazards Not Otherwise Classified**

Repeated exposure may cause skin dryness or cracking.

**TOTAL GROUND CARBON CONDUCTIVE COATING****838-AEROSOL****Section 3: Composition/Information on Ingredients**

| <b>CAS #</b>              | <b>Chemical Name</b>            | <b>% Weight</b> |
|---------------------------|---------------------------------|-----------------|
| 811-97-2                  | 1,1,1,2-tetrafluoroethane       | 50-70%          |
| 67-64-1                   | acetone                         | 10-30%          |
| 108-88-3                  | toluene                         | 3-6%            |
| 108-65-6                  | 1-methoxy-2-propyl acetate      | 1-5%            |
| 1333-86-4                 | carbon black                    | 1-5%            |
| 64-17-5                   | ethanol                         | 1-5%            |
| 110-19-0                  | isobutyl acetate                | 1-5%            |
| 110-43-0                  | 2-heptanone                     | 1-5%            |
| 141-78-6                  | ethyl acetate                   | 0.1-1%          |
| Proprietary <sup>a)</sup> | polyester-based block copolymer | 0.1-1%          |

a) CAS number withheld by supplier as trade secret ingredient: exemption granted by the Hazardous Materials Information Review Commission, HMIRC #6410, 03 March 2003

**TOTAL GROUND CARBON CONDUCTIVE COATING****838-AEROSOL****Section 4: First-Aid Measures**

| <i>Exposure Condition</i>   | <i>GHS Code: Precautionary Statement</i>   |
|-----------------------------|--|
| <b>IF INHALED</b>           | P304 + P340, P312, P308 + P313   |
| <b>Immediate Symptoms</b>   | <i>cough, irritation of the respiratory track, dizziness, drowsiness, headaches</i>  |
| <b>Response</b>             | Remove person to fresh air and keep comfortable for breathing.<br><br>Call a POISON CENTRE or physician.<br>If feeling unwell: Get medical advice.<br><br>If exposed or concerned: Get medical advice. |
| <b>IF IN EYES</b>           | P305 + P351 + P338, P337 + P313  |
| <b>Immediate Symptoms</b>   | <i>redness, severe irritation, pain</i>  |
| <b>Response</b>             | Rinse cautiously with water for several minutes.<br>Remove contact lenses, if present and easy to do.<br>Continue rinsing.<br><br>If eye irritation persists: Get medical attention.                   |
| <b>IF ON SKIN (or hair)</b> | P303 + P361 + P353, P308 + P313  |
| <b>Immediate Symptoms</b>   | <i>mild irritation, dry skin, redness</i>  |
| <b>Response</b>             | Take off immediately all contaminated clothing and wash it before reuse. Wash with plenty of water/shower.<br><br>If exposed or concerned: Get medical advice.   |
| <b>IF SWALLOWED</b>         | P301 + P330 + P331   |
| <b>Immediate Symptoms</b>   | <i>abdominal pain, nausea, headaches, dizziness, drowsiness, vomiting</i>  |
| <b>Response</b>             | Rinse mouth. Do not induce vomiting.<br><br>Call a POISON CENTRE/doctor if you feel unwell.  |

**TOTAL GROUND CARBON CONDUCTIVE COATING**
**838-AEROSOL**
**Section 5: Fire-Fighting Measures**

|                                  |                 |                    |                    |                               |     |
|----------------------------------|-----------------|--------------------|--------------------|-------------------------------|-----|
| <b>Auto-ignition Temperature</b> | Not established | <b>Flash Point</b> | -17 °C<br>[1.4 °F] | <b>LFL [LEL]<sup>b)</sup></b> | 1%  |
|                                  |                 |                    |                    | <b>UFL [UEL]</b>              | 12% |

**In case of fire** P370 + P378

**Extinguishing Media** Use dry chemical, carbon dioxide, or chemical foam to extinguish. Use water spray to cool containers.

**Specific Hazards** Will burn if involved in a fire. Produces irritating and toxic fumes in fires or in contact with hot surfaces.  
Pressurized container may erupt with force if heated in fire. Vapors are heavier than air, and may travel to sources of ignition near the ground.

**Combustion Products** Produces CO, CO<sub>2</sub>, halogenated compounds, and hydrogen fluorides

**Fire-Fighter** Wear self-contained breathing apparatus for fire fighting

a) Acetone literature value, which is the component with the lowest flash point.

b) Calculated based on Raoult's Law and using Le Chatelier principle

LFL = Lower Flammability [or Explosion] Limit (in volume %);

UFL = Upper Flammability [or Explosion] Limit (in volume %)

**Section 6: Accidental Release Measures**

**Personal Protection** See Section 8. Avoid breathing the vapors/fumes.

**Containment** Remove all sources of ignition.

Prevent spill from entering drains and waterways. Contain with inert absorbent (such as soil, sand, vermiculite).

**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.

**RECOMMENDATION:** Use a grounded stainless steel or carbon steel container or a solvent resistant plastic container.

**Disposal** Dispose of spill waste according to Section 13.

**TOTAL GROUND CARBON CONDUCTIVE COATING**

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**Section 7: Handling and Storage**

**Prevention**

Keep out of reach of children.

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

Keep away from heat/sparks/open flames/hot surfaces. No smoking.

Do not spray on an open flame or other ignition source.

Do not pierce or burn, even after use.

Do not breathe vapors/fumes. Use only outdoors or in a well-ventilated area.

**Handling**

Wear protective gloves/eye protection.

Wash hands thoroughly after handling.

**Storage**

Protect from sunlight. Do not expose to temperatures exceeding 50 °C [122 °F].

Store in a well-ventilated area. Keep cool.

Store locked up.

**Recommendation:** Do NOT store at temperatures below or equal to 26.5 °C [15.7 °F] since this may crush and damage the container.

**Section 8: Exposure Controls/Personal Protection**

**Routes of Entry**

Eyes, ingestion, inhalation, and skin

**Substances with Occupational Exposure Limit Values**

| Chemical Name             | Country or Vendor  | Long Term Exposure Limits (PEL)                                    | Short Term Exposure Limits (STEL)  |
|---------------------------|--|--|--|
| 1,1,1,2-tetrafluoroethane | MG Chemicals <sup>a)</sup><br>ACGIH<br>U.S.A. OSHA PEL<br>Canada | 1 000 ppm<br>Not established<br>Not established<br>Not established | Not established<br>Not established<br>Not established<br>Not established |

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| Chemical Name                | Country or Vendor  | Long Term Exposure Limits (PEL)  | Short Term Exposure Limits (STEL)  |
|------------------------------|--|--|--|
| Acetone                      | ACGIH<br>U.S.A. OSHA PEL<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC | 500 ppm<br>1 000 ppm<br>500 ppm<br>250 ppm<br>500 ppm<br>750 ppm   | Not established<br>1 000 ppm <sup>a)</sup><br>750 ppm<br>500 ppm<br>750 ppm<br>1000 ppm                        |
| toluene                      | ACGIH<br>U.S.A. OSHA PEL<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC | 20 ppm (TWA)<br>200 ppm<br>50 ppm<br>20 ppm<br>50 ppm<br>100 ppm   | Not established<br>500 ppm <sup>b)</sup><br>Not established<br>Not established<br>Not established<br>150 ppm   |
| 1-methoxy-2-propanol acetate | ACGIH<br>U.S.A. OSHA PEL<br>Canada BC<br>Canada ON                           | Not established<br>50 ppm <sup>b)</sup><br>50 ppm<br>50 ppm  | Not established<br>Not established<br>75 ppm<br>Not established  |
| carbon black <sup>c)</sup>   | ACGIH<br>U.S.A. OSHA PEL<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC | 3.5 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup><br>3 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup><br>3.5 mg/m <sup>3</sup> | Not established<br>Not established<br>Not established<br>Not established<br>Not established<br>Not established |
| isobutyl acetate             | ACGIH<br>U.S.A. OSHA PEL<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC | 150 ppm<br>150 ppm<br>150 ppm<br>150 ppm<br>150 ppm<br>150 ppm   | Not established<br>Not established<br>Not established<br>Not established<br>Not established<br>Not established |
| heptan-2-one                 | ACGIH<br>U.S.A. OSHA PEL<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC | 50 ppm<br>100 ppm<br>50 ppm<br>50 ppm<br>25 ppm<br>50 ppm  | Not established<br>Not established<br>Not established<br>Not established<br>Not established<br>Not established |
| ethanol                      | ACGIH<br>U.S.A. OSHA PEL<br>Canada AB<br>Canada BC<br>Canada ON<br>Canada QC | 1 000 ppm<br>1 000 ppm<br>1 000 ppm<br>Not established<br>Not established<br>1 000 ppm   | Not established<br>Not established<br>Not established<br>1 000 ppm<br>1 000 ppm<br>500 ppm                     |

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| Chemical Name | Country or Vendor | Long Term Exposure Limits (PEL) | Short Term Exposure Limits (STEL) |
|---------------|-------------------|---------------------------------|-----------------------------------|
| ethyl acetate | ACGIH             | 400 ppm                         | Not established                   |
|               | U.S.A. OSHA PEL   | 400 ppm                         | Not established                   |
|               | Canada AB         | 400 ppm                         | Not established                   |
|               | Canada BC         | 150 ppm                         | Not established                   |
|               | Canada ON         | Not established                 | Not established                   |
|               | Canada QC         | 400 ppm                         | Not established                   |

*Note:* Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH<sup>1</sup>, OSHA, and Canadian provinces exposure limits were consulted. Limits from by RTECS database<sup>2</sup> of the Canadian Centre for Occupational Health and Safety (CCOHS) a data 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) MG Chemicals limit corresponding to prevalent international value
- b) OSHA Peak exposure (10 minutes)
- c) Respirable airborne particles

### Engineering Controls

**Ventilation** Keep airborne concentrations below exposure limits given in section 3.

### Personal Protective Equipment

**Eye protection** Wear appropriate protective eyeglasses or chemical safety goggles.

**RECOMMENDATION:** Use safety glasses with lateral protection.

**Skin Protection** Wear appropriate protective clothing to prevent skin contact.

**RECOMMENDATION:** Use latex rubber or other chemically resistant gloves.

**Respiratory Protection** If exposed to mist, wear respirator such as a half-mask respirator.

**RECOMMENDATION:** Consult your local safety supply store to ensure your respirator has a NIOSH (U.S.) approved filter cartridges appropriate for the ingredients listed in section 3 of this MSDS, and that the respirator is 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 with water and soap after use.

**TOTAL GROUND CARBON CONDUCTIVE COATING**

**838-AEROSOL**

**Section 9: Physical and Chemical Properties**

|                                     |                         |   |                        |
|-------------------------------------|-------------------------|---|------------------------|
| <b>Physical State</b>               | Liquid                  | <b>Lower Flammability Limit</b> <sup>b)</sup> | 1%                     |
| <b>Appearance</b>                   | Black                   | <b>Upper Flammability Limit</b> <sup>b)</sup> | 12%                    |
| <b>Odor</b>                         | Ethereal, aromatic like | <b>Vapor Pressure @20 °C</b>                  | Not available          |
| <b>Odor Threshold</b> <sup>a)</sup> | ~2 ppm                  | <b>Vapor Density</b>                          | >2<br>(Air =1)         |
| <b>pH</b>                           | Not available           | <b>Specific Gravity @25 °C</b>                | 0.89                   |
| <b>Freezing/Melting Point</b>       | Not available           | <b>Solubility in Water</b>                    | Partially soluble      |
| <b>Boiling Point</b> <sup>a)</sup>  | ≥56 °C<br>[≥133 °F]     | <b>Partition Coefficient</b>                  | Not available          |
| <b>Flash Point</b> <sup>a)</sup>    | -17 °C<br>[1.4 °F]      | <b>Auto-ignition Temperature</b>              | Not available          |
| <b>Evaporation Rate</b>             | fast                    | <b>Decomposition Temperature</b>              | Not available          |
| <b>Flammability (solid, gas)</b>    | Not available           | <b>Viscosity @40 °C</b> <sup>c)</sup>         | ≥34 mm <sup>2</sup> /s |

a) Values for flash point and other threshold based on acetone

b) Lower and Upper Explosive Limits of mixture calculated using Le Chatelier principle and component LFL and UFL limits

c) Kinematic viscosity at 40 °C for separation layer

**Section 10: Stability and Reactivity**

|                            |   |
|----------------------------|---|
| <b>Stabilities</b>         | Chemically stable at normal temperatures and pressures  |
| <b>Conditions to Avoid</b> | Temperatures over 50 °C, ignition sources, and incompatible substances                                      |
| <b>Incompatibilities</b>   | Strong oxidizing agents, strong acids, strong bases, alkali or alkali earth metals                          |
| <b>Polymerization</b>      | Will not occur  |
| <b>Decomposition</b>       | Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5 |

**TOTAL GROUND CARBON CONDUCTIVE COATING**

**838-AEROSOL**

**Section 11: Toxicological Information**

**Routes of Exposure**

Eyes, ingestion, inhalation, and skin

**Symptoms Summary**

- Eyes** Causes severe eye irritation if splashed in eyes or exposed to vapors. May also cause eye redness or pain.
- Skin** May cause mild to moderate skin irritation.
- Inhalation** May cause nose, throat and lung irritation. Inhalation of mist may cause irritation to the upper respiratory tract.
- Ingestion** Harmful if swallowed. It may cause irritation and burning sensation.
- Chronic** Prolonged and repeated exposure may cause dermatitis, defatting of the skin, liver and kidney damage, and adverse central nervous systems effects.
- Long term exposure to carbon black dust or mist may cause cancer.
- Ingestion or inhalation of paint material, mist, or vapor during pregnancy may increase the chances fetal death and developmental defects.

**Lethal Exposure Concentrations**

| <b>Chemical Name</b>       | <b>LD50 oral</b>    | <b>LD50 dermal</b>         | <b>LC50 inhalation</b>            | <b>TCLo inhalation</b>                 |
|----------------------------|---------------------|----------------------------|-----------------------------------|--|
| 1,1,1,2-tetrafluoroethane  | Not available       | Not available              | 1 500 g/m <sup>3</sup><br>4 h Rat | Not available                          |
| acetone                    | 5 800 mg/kg<br>Rat  | >9 400 µL/kg<br>Guinea pig | 44 g/m <sup>3</sup><br>4 h Rat    | 10 mg/m <sup>3</sup><br>6 h Human      |
| toluene                    | 636 mg/kg<br>Rat    | 12 124 mg/kg<br>Rabbit     | 49 g/m <sup>3</sup><br>4h Rat     | 200 ppm<br>Human                       |
| 1-methoxy-2-propyl acetate | 8 532 mg/kg<br>Rat  | > 5 g/kg<br>Rabbit         | Not available                     | 1 105 mg/m <sup>3</sup><br>4 h Rat     |
| carbon black               | >15 g/kg<br>Rat     | >3 g/kg<br>Rabbit          | Not available                     | 1.6 mg/m <sup>3</sup><br>7 h Rat       |
| isobutyl acetate           | 13 400 mg/kg<br>Rat | >17 400 mg/kg<br>Rabbit    | Not available                     | 8 000 ppm<br>4h Rat LCLo <sup>a)</sup> |

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| <b>Chemical Name</b> | <b>LD50 oral</b>   | <b>LD50 dermal</b>      | <b>LC50 inhalation</b>           | <b>TCLo inhalation</b>                    |
|----------------------|--------------------|-------------------------|----------------------------------|---|
| heptan-2-one         | 1 670 mg/kg<br>Rat | 12 600 µL/kg<br>Rabbit  | Not available                    | 7 000 mg/m <sup>3</sup><br>4 h Guinea pig |
| ethanol              | 7 060 mg/kg<br>Rat | Not available           | 20 000 ppm<br>10 h Rat           | 2 500 mg/m <sup>3</sup><br>20 min Human   |
| ethyl acetate        | 5 620 mg/kg<br>Rat | >20 000 µL/kg<br>Rabbit | 45 g/m <sup>3</sup><br>2 h Mouse | 400 ppm<br>Human                          |

*Note:* Representative toxicity data from by RTECS database<sup>2</sup> of the Canadian Centre for Occupational Health and Safety (CCOHS) data from supplier MSDS were also consulted.  
 a) Lowest published lethal concentration

**Other Toxicological Effects**

**Skin corrosion/irritation**

Mild skin irritant, ranked Cat 3 under GHS. This category was not adopted by OSHA.

**Serious eye damage/irritation**

Acetone, toluene, and ethanol are known serious to moderate eye irritant

**Respiratory and skin sensitization** (allergic reactions)

None known

**Carcinogenicity**  
(risk of cancer)

**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  
 NTP: Not listed

**Mutagenicity**  
(risk of heritable genetic effects)

Not known

**Reproductive Toxicity**  
(risk to sex functions)

Toluene, ethanol, and acetone present reproductive and developmental hazards

**Teratogenicity**  
(risk of fetus malformation)

Toluene is suspected to be harmful to unborn fetus based on animal studies

**STOT-single exposure**

Narcotic effect on the Central nervous system

**STOT-repeated exposure**

Toluene may cause damage to the liver an inner ear through prolonged or repeated exposure.

**Aspiration hazard**

Mixture separation layer viscosity at 40 °C is >20.5 mm<sup>2</sup>/s; therefore, it is not classified as aspiration hazard.

**TOTAL GROUND CARBON CONDUCTIVE COATING****838-AEROSOL****Section 12: Ecological Information**

The IMDG Code criteria and the raw-material MSDS along with supporting data for the classification of registered substances from the European Chemical Agency database (<http://echa.europa.eu>) were used.

Toluene is an acute category 2 environmental toxicant (rapidly biodegradable, with minimal LC50 of 7.63 mg/L for *Oncorhynchus mykiss* (rainbow trout); 8.9 mg/L 24 h *Daphnia magna* (water flea); 10 mg/L 24 h *Pseudokirchneriella subcapitata* (green algae)).

Acetone, isobutyl acetate, heptan-2-one, ethyl acetate, ethanol and 1-methoxy-2-propanol acetate are not classifiable as environmental toxicants with minimal LC50 of >100 mg/L. The lowest LC50 for acetone are 5,540 mg/L 96 h for *Oncorhynchus mykiss* (rainbow trout) and 13,500 mg/L 48 h *Daphnia magna* (water flea). Ethanol has a minimal LC50 of 12 000 mg/L 96 h for *Oncorhynchus mykiss* (rainbow trout) and 5 770 mg/L for *Pimephales promelas* (fathead minnow); LC 50 48 h of 5 012 mg/L for *Cerodaphnia* sp.). Ethyl acetate is has a minimal LC50 of 220 mg/L for fathead minnow). The LC50 for 1-methoxy-2-propanol acetate component is 100–180 mg/L 96 h for *Salmo gairdneri* and >500 mg/L 48 h *Daphnia magna* (water flea).

**Acute Ecotoxicity**

Category 3

*GHS Code: Hazard Statement*

H402: Very toxic to aquatic life

P273: Avoid release to the environment.

P391: Collect spillage.

**Chronic Ecotoxicity**

Not classifiable

**Persistence and Biodegradability**

Not available

**Bioaccumulative Potential**

Not available

**Mobility in Soil**

Not available

**Other Effects**

VOC (EPA, WHIMS, and Europe) = 15% [135 g/L]

\*VOC = *Volatile Organic Content*

**Section 13: Disposal Considerations**

Dispose of contents in accordance with all local, provincial, state, and federal regulations.

**TOTAL GROUND CARBON CONDUCTIVE COATING****838-AEROSOL****Section 14: Transport Information****Ground**

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

**Limited Quantity**

**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.**

**Limited Quantity**

**UN number:** UN1950  
**Shipping Name:** AEROSOL,  
flammable  
**Class:** 2.1  
**Packing Group:** Not applicable  
**Marine Pollutant:** No

**Sea**

**Refer to IMDG regulations.**

**Limited Quantity**

**UN number:** UN1950  
**Shipping Name:** AEROSOL,  
flammable  
**Class:** 2.1  
**Packing Group:** Not applicable  
**Marine Pollutant:** No



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

## TOTAL GROUND CARBON CONDUCTIVE COATING

## 838-AEROSOL

### Section 15: Regulatory Information

#### Canada

##### WHMIS Classification



A – Aerosol Container, B5 – Flammable Aerosols;  
D2A – Very Toxic (Carcinogenicity IARC: 2B; Embryotoxicity);  
D2B – Toxic (Skin/Eye Irritation)

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

All hazardous ingredients are listed on the DSL/NDSL.

##### Industry and Science Canada

MG Labels products intended for the workplace to conform to WHMIS labeling regulations. Product identification, net quantity declaration, minimum printing type size heights, and packaging of this product are in compliance.

##### Health Canada

Products produced by MG Chemicals intended for retail display conform to the Canadian Consumer Labeling Regulations.

#### USA

##### 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 6% (wt) toluene (CAS# 108-88-3), which is listed as hazardous air pollutants.

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

This product contains toluene (CAS# 108-88-3; reportable quantity = 1000 lb), which is subject to the reporting requirements of section 313 Title III of the SARA of 1986 and 40 CFR part 372.

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

All substances are TSCA listed.

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## TOTAL GROUND CARBON CONDUCTIVE COATING **838-AEROSOL**

**California Proposition 65** (Chemicals known to cause cancer or reproductive toxicity, Sept 2, 2011 revision, USA).

This product contains toluene, which is listed as reproductively toxicity.

This product contains carbon black (airborne, unbound particles of respirable size), which is listed as a carcinogen.

This product contains ethanol, which is listed as reproductively toxic. It is also listed as a carcinogen when in an alcoholic beverage.

### Europe

#### RoHS

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

#### WEEE

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

### Section 16: Other Information

**MSDS Prepared by** Michel Hachey  
**Date of Revision** 20 June 2014  
**Supersedes** 03 March 2012  
**Reason for Changes:** Change to HCS 2012 format

#### Reference

- 1) ACGIH 2013 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 (2013).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

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## TOTAL GROUND CARBON CONDUCTIVE COATING

## 838-AEROSOL

### 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  |

**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](http://www.mgchemicals.com).

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