

SAI Global File #004008 Burlington, Ontario, Canada

838AR

TOTAL GROUNDTM CARBON CONDUCTIVE PAINT

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 838AR

Other Means of Identification: Total Ground[™] Carbon Conductive Paint Related Part # 838AR-15ML, 838AR-15MLCA, 838AR-900ML, 838AR-3.78L

Recommended Use and Restriction on Use

Use: Electrically conductive paint and EMI/RFI shield

Uses Advised Against: Not applicable

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

MG Chemicals (Head Office)

9347-193 Street

Surrey, British Columbia V4N 4E7

CANADA

+1-905-331-1396 Fax +1-905-331-2682 E-mail info@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



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Section 2: Hazard(s) Identification

Classification of Hazardous Chemical

GHS Categories

Criteria		Category	Signal Word	Pictograms
Flammable Liquids		2	Danger	Flame
Eye Damage		1	Danger	Corrosive
Carcinogenicity		2	Warning	Health
Sensitization	Skin	1	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation

Note: The degree of severity is ranked within each hazard class from

Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H225: Highly flammable liquid and vapor
	H318: Causes serious eye damage
	H351: Suspected of causing cancer by inhalation

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^{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.



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Pictograms	Hazard Statements
_	H317: May cause an allergic skin reaction
	H336: May cause drowsiness or dizziness
•/	
Prevention	Precautionary Statements
P102	Keep out of reach of children.
P203	Obtain, read and follow all safety instructions before use.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical, ventilating and lighting equipment.
P243	Take action to prevent static discharge.
P280	Wear protective gloves, protective clothing, and eye protection.
P261	Avoid breathing mist, vapors, and spray.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing should not be allowed out of the workplace.
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 skin with plenty of water.
P333 + P317	If skin irritation or rash occurs: Get medical help.
P363	Wash contaminated clothing before reuse.
P305 + P351 + P338, P317	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.
P304 + P340, P319	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help if you feel unwell.
P318	IF exposed or concerned, get medical advice.

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Storage	Precautionary Statements
P403 + P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	Precautionary Statements
P501	Dispose of 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)
67-64-1	acetone	36%
110-19-0	isobutyl acetate	30%
71-36-3	1-butanol	10%
1333-86-4	carbon black	6%
108-65-6	1-methoxy-2-propyl acetate	4%
25619-56-1	barium bis(dinonylnaphthalenesulphonate)	0.5%

Section 4: First-Aid Measures

Exposure Condition	GHS Code/Symptoms/Precautionary Statements
IF IN EYES	P305 + P351 + P338, P317
Immediate Symptoms	redness, pain, blurred vision, eye damage
Response	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical help.

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IF ON SKIN (or hair)	P303 + P361, P363, P352, P333 + P317
Immediate Symptoms	dry skin, redness, rash, allergic dermatitis
Response	Take off immediately all contaminated clothing. Wash contaminated clothing before reuse.
	Wash with plenty of water.
	If skin irritation or rash occurs: Get medical help.
IF INHALED	P304 + P340, P319, P318
Immediate Symptoms	cough, sore throat, vomiting, headache, dizziness, drowsiness, shortness of breath
Response	IF INHALED: Remove person to fresh air and keep comfortable for breathing. Get medical help if you feel unwell.
	IF exposed or concerned, get medical advice.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	abdominal pain, nausea, diarrhea, drowsiness, dizziness, vomiting, shortness of breath
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.
	Use water spray to cool containers.
Specific Hazards	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.
	Produces irritating and toxic fumes in fires or in contact with hot surfaces.
	Prevent fire-fighting wash from entering waterway or sewer system.
Combustion Products	Produces carbon oxides (CO, CO ₂), and other toxic fumes.
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.



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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 ignition or extreme heat.

Environmental Precautions

Avoid releasing to the environment. Prevent spill from entering

drains and waterways.

Containment Methods Contain with inert and nonflammable absorbent (such as soil,

sand, or 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.

RECOMMENDATION: Use a grounded stainless steel or carbon

steel container.

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.

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 action to

prevent static discharge.

Avoid breathing mist, vapors, and spray. Use only outdoors or

in a well-ventilated area. Keep container tightly closed.

Handling Wear protective gloves, protective clothing, and eye

protection.

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

reuse.

Storage Store in a well-ventilated place. Keep cool.

Store locked up.

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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)
acetone	ACGIH	500 ppm	750 ppm
	U.S.A. OSHA PEL	1 000 ppm	Not established
	Canada AB	500 ppm	750 ppm
	Canada BC	250 ppm	500 ppm
	Canada ON	500 ppm	750 ppm
	Canada QC	750 ppm	1 000 ppm
isobutyl acetate	ACGIH	150 ppm	Not established
	U.S.A. OSHA PEL	150 ppm	Not established
	Canada AB	150 ppm	Not established
	Canada BC	150 ppm	Not established
	Canada ON	150 ppm	Not established
	Canada QC	150 ppm	Not established
1-butanol	ACGIH	20 ppm	Not established
	U.S.A. OSHA PEL	100 ppm	Not established
	Canada AB	20 ppm	Not established
	Canada BC	15 ppm	30 ppm (Ceiling)
	Canada ON	20 ppm	Not established
	Canada QC	50 ppm (Ceiling)	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
1-methoxy-2-propyl	ACGIH	Not established	Not established
acetate	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

Note: Ingredients are listed in descending weight contribution order (from greatest to least). The ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from the RTECS database² and from suppliers' SDSs 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

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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.

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.

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.

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.

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Section 9: Physical and Chemical Properties

Physical State	Liquid	Lower Flammability Limit ^{b)}	2%
Appearance	Black	Upper Flammability Limit ^{b)}	12%
Odor	Solvent like	Vapor Pressure @20°C	Not available
Odor Threshold	Not available	Vapor Density	≥2
pH	Not available	Relative Density @25°C	0.89
Freezing/Melting Point	Not available	Solubility in Water	Partly miscible
Initial Boiling Point ^{a)}	56 °C [132 °F]	Partition Coefficient n-octanol/water	Not available
Flash Point a)	-17 °C [1.4 °F]	Auto-ignition Temperature ^{a)}	465 °C [869 °F]
Evaporation Rate	<1 (ButAc = 1)	Decomposition Temperature	Not available
Flammability	Highly flammable	Viscosity @25 °C	114 cP

a) Values based on acetone.

Section 10: Stability and Reactivity

Not available
Chemically stable at normal temperatures and pressures.
Ignition sources, open flames, excessive heat, and incompatible substances
Strong oxidizing agents, strong bases, strong reducing agents, acids
Will not occur
Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

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b) Values based on Raoult's Law and LeChatelier principle.

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Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Eyes Causes redness, pain, blurred vision and eye damage.

Skin May cause dry skin, redness, rash, and allergic dermatitis.

Inhalation May cause coughing, sore throat, vomiting, headache, dizziness,

drowsiness, and shortness of breath.

Ingestion May cause abdominal pain, nausea, diarrhea, drowsiness, dizziness,

vomiting, and shortness of breath.

Chronic Prolonged or repeated exposure may cause skin may cause skin dryness

and cracking.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50	LD50	LC50
	oral	dermal	inhalation
acetone	5 800 mg/kg	20 mL/kg	16 000 ppm
	Rat	Rabbit ^{a)}	4 h Rat ^{a)}
isobutyl acetate	13 413 mg/kg	>17 400 mg/kg	Not
	Rat	Rabbit	available
1-butanol	2 292 mL/kg	3 434 mL/kg	>17.76 mg/L
	Rat	Rabbit	4 h Rat
carbon black	>15 g/kg	>3 g/kg	Not
	Rat	Rabbit	available
1-methoxy-2-propanol acetate	8 532 mg/kg	>5 g/kg	Not
	Rat	Rabbit	available
barium	>15 800 mg/kg	>7 940 mg/kg	Not
bis(dinonylnaphthalenesulphonate)	Rat	Rabbit	available

Note: Toxicity data from the RTECS² and ECHA databases 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.

1-butanol causes serious eye damage. Serious Eye Damage/Irritation

Sensitization Barium bis(dinonylnaphthalenesulphonate) can cause

(allergic reactions) an allergic skin reaction.

Carcinogenicity The carbon black [1333-86-4] is possibly

carcinogenic by airborne routes of exposures under (risk of cancer)

WHMIS 2015 and HCS 2012.

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 Based on available data, the classification criteria are

(risk of heritable genetic effects) not met.

Reproductive Toxicity Based on available data, the classification criteria are

(risk to sex functions) not met.

Teratogenicity (risk of fetus Based on available data, the classification criteria are

malformation) not met.

STOT-Single Exposure Acetone, isobutyl acetate and 1-butanol can affect

the central nervous system by inhalation causing

drowsiness or dizziness.

Based on available data, the classification criteria are STOT-Repeated Exposure

not met.

Aspiration Hazard Based on available data, the classification criteria are

not met.

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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.

None of the ingredients are 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.

Other Effects

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

Actual VOC = 58% (519 g/L)

Section 13: Disposal Information

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



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Section 14: Transport Information

Ground

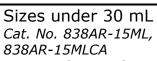
Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations); **USA DOT 49 CFR** (Parts 100 to 185) **Regulations.**

Sizes over 30 mL to 5 L

Cat. No. 838AR-900ML, 838AR-3.78L

Limited Quantity

Max Net Qty/Outer Pkg = 30 kg



Excepted Quantity

Code **E2** Class 3



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes over 30 mL to 500 mL a)

FOR REFERENCE ONLY Limited Quantity

Max Net Qty/Outer Pkg = 1 L



(cargo)

Cat. No. 838AR-900ML, 838AR-3.78L

Sizes up to 5 L (passenger), 60 L

UN number: UN1263 **Shipping Name:** PAINT

Class: 3

Packing Group: II Marine Pollutant: No

Sizes under 30 mL Cat. No. 838AR-15ML, 838AR-15MLCA

Excepted Quantity

Code **E2** Class 3

On air waybill, write: "Dangerous Goods in

Excepted Quantities".

a) Max net quantity per inner packaging in a combination packaging

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Sea

Refer to IMDG regulations.

Sizes over 30 mL to 5 L

Cat. No. 838AR-900ML, 838AR-3.78L

Limited Quantity

Max Net Qty/Outer Pkg = 30 kg

FOR REFERENCE ONLY
UN number: UN1263
Shipping Name: PAINT

Sizes greater than 5 L

Class: 3

Packing Group: II Marine Pollutant: No



Sizes under 30 mL Cat. No. 838AR-15ML, 838AR-15MLCA Excepted Quantity

Code **E2** Class 3



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.

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USA

Other Classifications

HMIS® RATING

HEALTH:	*	2
FLAMMABILITY:		3
PHYSICAL HAZARD:		1
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 acetone (CAS# 67-64-1) and isobutyl acetate (CAS# 110-19-0), which is subject to the CERCLA reporting requirements at the 5 000 lb (2 268 kg) threshold.

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 (airborne, unbound particles of respirable size), which is listed as a carcinogen.

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.

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Section 16: Other Information

SDS Prepared by MG Chemicals' Regulatory Department

Date of Creation 05 November 2020 **Supersedes** 03 March 2020

Reason for Changes: Added new part number.

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

Abbreviations

ACGIH EC50	American Conference of Governmental Industrial Hygienists (USA) 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

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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.

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L7L 5R6 V4N 4E7

Disclaimer This safety data sheet is provided as an information resource only.

M.G. Chemicals, Ltd. believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to query and verify any information seeming suspect where doubt on the validity may exist. The buyer assumes all responsibility of using and handling the product in accordance with local, regional,

national, and international regulations.