

844AR

ACRYLIC ESD COATING (AEROSOL)

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 844AR**Other Product Identifier:** Acrylic ESD Coating (Aerosol)**Part Numbers:** 844AR-340G

Recommended Use and Restriction on Use

Use: Static protection for electronic components**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**WEB** www.mgchemicals.com**☎** 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

844AR
ACRYLIC ESD COATING (AEROSOL)
Section 2: Hazard(s) Identification
Classification of Hazardous Chemical
GHS Categories

Criteria	Category	Signal Word	Pictograms
Eye Damage	1	Danger	Corrosion
Carcinogenicity	2	Warning	Health
Flammable Aerosol	2	Warning	Flame
Gas Under Pressure	Liquefied Gas	Liquefied Gas	Warning Gas cylinder
Specific Target Organ Toxicity	Single Exposure	3	Warning Exclamation


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

Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H318: Causes serious eye damage
	H223: Flammable aerosol
	H280: Contains gas under pressure; may explode if heated
	H351: Suspected of causing cancer

Section continued on the next page

844AR
ACRYLIC ESD COATING (AEROSOL)
Continued ...

Pictograms	Hazard Statements
	H336: May cause drowsiness or dizziness
Prevention	Precautionary Statements
P102	Keep out of reach of children.
P201, P202	Obtain special instructions before use. Do not handle until all safety precautions have been read and understood.
P210	Keep away from heat, hot surfaces sparks, open flames 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.
P261	Avoid breathing mist, vapors, and spray.
P271	Use only outdoors or in a well-ventilated area.
P280	Wear eye protection.
Response	Precautionary Statements
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P312	Call a POISON CENTER or doctor if you feel unwell.
P308 + P313	IF exposed or concerned: Get medical advice or attention.
Storage	Precautionary Statements
P410 + P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C [122 °F].
P403	Store in a well-ventilated place.
P405	Store locked up.

Section continued on the next page

844AR
ACRYLIC ESD COATING (AEROSOL)
Continued ..

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

Hazards Not Otherwise Classified

Other Criteria	Hazard Statements/Precautionary Statement	Signal Word	Pictograms
Simple Asphyxiants	May displace oxygen and cause rapid suffocation.	Warning	None
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	37%
616-38-6	dimethyl carbonate	22%
74-98-6	propane	13%
75-28-5	isobutane	7%
108-65-6	2-methoxy-1-methylethyl acetate	4%
71-36-3	1-butanol	3%
13463-67-7	titanium dioxide	2%

Section 4: First-Aid Measures

<i>Exposure Condition</i>	<i>GHS Code: Precautionary Statement</i>
IF IN EYES	P305 + P351 + P338, P310
Immediate Symptoms	<i>redness, irritation, pain, eye damage, blurred vision</i>
Response	Rinse cautiously with water for at least 30 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER or doctor.

Section continued on the next page

844AR**ACRYLIC ESD COATING (AEROSOL)***Continued...*

IF INHALED	P304 + P340, P312, P308 + P313
Immediate Symptoms	<i>cough, sore throat, dizziness, drowsiness, headaches, weakness, unconsciousness</i>
Response	Remove person to fresh air and keep comfortable for breathing. If feeling unwell: Call a POISON CENTRE or doctor. IF exposed or concerned: Get medical advice or attention.
IF ON SKIN	P302 + P352
Immediate Symptoms	<i>dry skin, mild irritation</i>
Response	Wash with plenty of water.
IF SWALLOWED	P301 +P330, P331
Immediate Symptoms	<i>Low toxicity: nausea, vomiting, abdominal pain</i>
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	Aerosols containers may erupt with force at temperatures above 50 °C [122 °F]. 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) and other toxic fumes.
Fire-Fighter	Wear self-contained breathing apparatus and full fire-fighting turn-out gear.

844AR

ACRYLIC ESD COATING (AEROSOL)**Section 6: Accidental Release Measures**

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Avoid breathing the mist, spray, and vapors. Remove or keep away all sources of extreme heat or open flames.
Environmental Precautions	Prevent spill from entering drains and waterways.
Containment Methods	Not applicable
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 special instructions before use. Do not handle until all safety precautions have been read and understood. Keep away from heat, hot surfaces sparks, open flames and other ignition sources. No smoking. Do not spray on an open flame or other ignition source. Do not pierce or burn, even after use. Avoid breathing the mist, spray, and vapors. Use only outdoors or in a well-ventilated area.
Handling	Wear eye protection.
Storage	Protect from sunlight. Do not expose to temperatures exceeding 50 °C [122 °F]. Store in a well-ventilated place. Store locked up.

844AR
ACRYLIC ESD COATING (AEROSOL)
Section 8: Exposure Controls/Personal Protection
Substances with Occupational Exposure Limit Values

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
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
propane	ACGIH	See footnote ^{a)}	Not established
	U.S.A. OSHA PEL	1 000 ppm	Not established
	Canada AB	1 000 ppm	Not established
	Canada BC	1 000 ppm	Not established
	Canada ON	1 000 ppm	Not established
	Canada QC	1 000 ppm	Not established
isobutane <i>alkane (C2-C4)</i> <i>aliphatic hydrocarbon gas</i>	ACGIH	See footnote ^{a)}	Not established
	U.S.A. OSHA PEL	Not established	Not established
	Canada AB	1 000 ppm	Not established
	Canada BC	1 000 ppm	Not established
	Canada ON	800 ppm	Not established
	Canada QC	Not established	Not established
2-methoxy-1-methylethyl acetate	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	Not established	Not established
	U.S.A. California ^{a)}	100 ppm	150 ppm
	Canada AB	Not established	Not established
	Canada BC	50 ppm	75 ppm
	Canada ON	50 ppm	Not established
Canada QC	Not established	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

Section continued on the next page

844AR
ACRYLIC ESD COATING (AEROSOL)
Continued ...

Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
titanium dioxide ^{b)}	ACGIH	10 mg/m ³	Not established
	U.S.A. OSHA PEL	15 mg/m ³	Not established
	Canada AB	10 mg/m ³	Not established
	Canada BC	10 mg/m ³	Not established
	Canada ON	10 mg/m ³	Not established
	Canada QC	10 mg/m ³	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 RTECS² database 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) Refer to the ACGIH Appendix F: Minimum Oxygen Content for Asphyxia TLV Basis
- b) Respirable airborne particles

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: Use safety glasses with lateral protection (side shields).

Skin Protection

Wear appropriate protective clothing to prevent skin contact.

For likely contacts, use of protective butyl rubber, nitrile rubber, or other chemically resistant gloves.

Section continued on the next page

844AR
ACRYLIC ESD COATING (AEROSOL)

Respiratory Protection For over-exposures up to 10 x OEL of mist, vapors, or 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.

Section 9: Physical and Chemical Properties

Physical State	Liquid in aerosol format	Lower Flammability Limit ^{b)}	2.1%
Appearance	Off white	Upper Flammability Limit ^{b)}	9.5%
Odor	Ethereal	Vapor Pressure ^{d)} @20 °C	3 500 hPa [2 600 mmHg]
Odor Threshold	Not available	Vapor Density	≥1.5 (Air =1)
pH	Not available	Relative Density @25 °C	0.95
Freezing/Melting Point	Not available	Solubility in Water	Partially miscible
Initial Boiling Point ^{a)}	≥56 °C [132 °F]	Partition Coefficient n-octanol/water	Not available
Flash Point ^{a)}	-18 °C [-0.4 °F]	Auto-ignition Temperature ^{c)}	345 °C [653 °F]
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability	Flammable	Viscosity @20 °C	<20.5 mm ² /s

a) Based on acetone boiling point and closed cup value

b) Calculated based on Raoult's Law and LeChatelier principle

c) 1-butanol auto-ignition value, which is the lowest among the mixture components.

d) Based on propellant

844AR
ACRYLIC ESD COATING (AEROSOL)
Section 10: Stability and Reactivity

Reactivity	Not available
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Temperatures above 50 °C [122 °F], open flames, and incompatible substances
Incompatibilities	Strong oxidizing agents, bases, and 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	Causes redness, irritation, pain, eye damage and blurred vision.
Inhalation	May cause cough, sore throat, dizziness, drowsiness, and headaches. A severe overexposure can cause weakness and unconsciousness.
Ingestion	May cause nausea, vomiting, and abdominal pain.
Skin	May cause dry skin, and mild irritation.
Chronic	Prolonged or repeated exposure may cause skin dryness, cracking, as well as defatting the skin.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
acetone	5 800 mg/kg Rat	20 mL/kg Rabbit ^{a)}	16 000 ppm 6 h Rat
dimethyl carbonate	>5 000 mg/kg Rat	>5 000 mL/kg Rabbit	>5.36 mg/L 4 h Rat (vapors)
propane	Not applicable	Not applicable	>800 000 ppm 4 h Rat
isobutane	Not applicable	Not applicable	>570 000 ppm 4 h Rat

Section continued on the next page

844AR
ACRYLIC ESD COATING (AEROSOL)
Continued...

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
2-methoxy-1-methylethyl acetate	8 532 mg/kg Rat	2 000 mg/kg Rat	Not available
1-butanol	790 mg/kg Rat	3 400 mg/kg Rabbit	Not available
titanium dioxide	5 000 g/kg Rat	>5 000 g/kg Rat	5 mg/L 4 h Rat (dust)
ATE Mixture	>7 897 mg/Kg	>9 913 mg/kg	50 mg/L

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

a) Supplier SDS

Other Toxicological Effects

Skin corrosion/irritation Based on available data, the classification criteria are not met.

Serious eye damage/irritation 1-butanol is known to cause eye damage.

Sensitization
(allergic reactions) Based on available data, the classification criteria are not met.

Carcinogenicity
(risk of cancer) Because the titanium dioxide is bound in the liquid mixture, it is not available as an airborne hazard (dust) under normal use.

Titanium Dioxide [13463-67-7]

IARC Group 2B: Possibly carcinogenic to humans

ACGIH A4: Not classified as a human carcinogen

CA Prop 65: Listed as a carcinogen (airborne, as unbound particles of respirable size)

NTP: Not listed

Mutagenicity
(risk of heritable genetic effects) Based on available data, the classification criteria are not met.

Reproductive Toxicity
(risk to sex functions) Based on available data, the classification criteria are not met.

Section continued on the next page

844AR**ACRYLIC ESD COATING (AEROSOL)**

Teratogenicity (risk of fetus malformation)	Based on available data, the classification criteria are not met.
STOT-single exposure	Acetone, 2-methoxy-1-methylethyl acetate, and 1-butanol can affect the central nervous system by inhalation causing drowsiness or dizziness.
STOT-repeated exposure	Based on available data, the classification criteria are not met.
Aspiration hazard	The liquid content does not meet the aspiration hazard criteria. The mixture doesn't contain category 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 component substances are not classifiable as an environmental toxicant.

Acute Ecotoxicity

Available toxicity data does not meet classification thresholds

Chronic Ecotoxicity

Available toxicity data does not meet classification thresholds

Biodegradability

The constituents are volatile and readily biodegradable.

Other Effects

Volatile Organic Compounds (VOC) = 27% [258 g/L]

Product-weighted Maximal Incremental Reactivity (MIR) = 0.35 O₃/g product

Section 13: Disposal Information

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

844AR

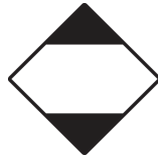
ACRYLIC ESD COATING (AEROSOL)

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



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Limited Quantity
Max Net Qty/Pkg =
30 kg Gross



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

Sea

Refer to IMDG regulations.

Limited Quantity



FOR REFERENCE ONLY
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.

844AR**ACRYLIC ESD COATING (AEROSOL)****Section 15: Regulatory Information****Canada****Domestic Substance List (DSL) / Non-Domestic Substance Lists (NDSL)**

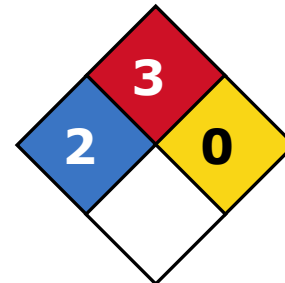
All hazardous ingredients are listed on the DSL/NDSL.

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

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

USA**Other Classifications****HMIS® RATING**

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

NFPA® 704 CODES

Approximate HMIS and NFPA Risk Ratings Legend:

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

CAA (Clean Air Act, USA)

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

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

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

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

This product contains acetone (CAS# 67-63-0), butan-1-ol (CAS# 71-36-3); reportable quantity = 5 000 lb [2 268 kg]) 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.

Section continued on the next page

844AR**ACRYLIC ESD COATING (AEROSOL)**

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

This product contains titanium dioxide, 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 electronics equipment, and is therefore not governed by this regulation.

Section 16: Other Information

MSDS Prepared by	MG Chemicals' Regulatory Department
Date of Revision	17 January 2022
Supersedes	03 March 2020
Reason for Changes:	Update to the formulation.

References

- 1) ACGIH 2017 TLVs and BEIs: Based on the documentation of the threshold limit values for chemical substances and physical agents & biological exposure indices, American Conference of Governmental of Industrial Hygienist Cincinnati, OH (2017).
- 2) All toxicological data were checked against the RTECS (Registry of Toxic Effects of Chemical Substances®)

Section continued on the next page

844AR**ACRYLIC ESD COATING (AEROSOL)****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

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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