

Material Safety Data Sheet

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For updates please download from www.mgchemicals.com or fax requests to 1-800-708-9888

Section 1: Product Identification

MSDS Code: 409B -aerosol Name: Electrosolve Contact Cleaner

Related Part Numbers: 409B-140G; 409B-340G

Use: Zero residue contact cleaner for electronics.

Section 2: Hazardous Ingredients

| CAS# | Chemical Name | Percentage by weight | ACGIH TWA | Osha PeI | Osha Stel |
|----------|---------------------------|----------------------|-----------|----------|-----------|
| 75-83-2 | 2,2 dimethylbutane | 8-11% | 500ppm | 500ppm | N/E |
| 96-14-0 | 3-methyl pentane | 11-14% | 500ppm | 500ppm | N/E |
| 79-29-8 | 2,3 dimethyl butane | 11-14% | 500ppm | 500ppm | N/E |
| 107-83-5 | 2 - methyl pentane | 28-38% | 500ppm | 500ppm | N/E |
| 811-97-2 | 1,1,1,2 tetrafluoroethane | 20-30% | 1000ppm | N/E | N/E |
| 110-54-3 | n-hexane | 2.25-2.50% | 50ppm | 500 ppm | 500ppm |

Section 3: Hazards Identification

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|--------------------|----------------------------------------------------------------------------------------------------|
| Eyes: | May cause mild eye irritation. |
| Skin: | May cause mild skin irritation. |
| Inhalation: | May cause irritation of respiratory tract. Vapor reduces amount of oxygen available for breathing. |
| Ingestion: | Aspiration hazard. May cause weakness and gastrointestinal tract irritation. |
| Chronic: | None known. |

Section 4: First Aid Measure

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| Eyes: | Remove contact lenses. Flush with water. Get medical aid. |
| Skin: | Wash skin with soap and water. Get medical aid if symptoms persist. |
| Inhalation: | Immediately remove from exposure to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid. |
| Ingestion: | Do not induce vomiting. If conscious, give 1-2 glasses of water. Get medical aid. |

Section 5: Fire Fighting Measures

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|----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|-------|-------------------|-------|
| Autoignition Temperature: | N/e | Flash Point: | -29°C | LEL / UEL: | 1 / 7 |
| Extinguishing Media: | Use water spray, dry chemical, carbon dioxide, or chemical foam. | | | | |
| General Information: | Will burn if involved in a fire. Containers may explode in the heat of a fire. Highly flammable vapors are heavier than air and may accumulate in low areas. Flash back along vapor trail is possible. | | | | |

Section 6: Accidental Release Measures

Spill Procedure: Remove all sources of ignition. Provide adequate ventilation. Wear appropriate personal protection. Sprinkle absorbent compound onto spill, then sweep into a plastic or metal container. Wipe up further residue with paper towel and place in container. Wash spill area with soap and water.

Section 7: Handling and Storage

Handling: Wash thoroughly after handling. Avoid contact with eyes, skin, and clothing. Do not ingest or inhale. Do not expose container to heat or flame.

Storage: Keep away from sources of ignition. Store in a cool, dry, well-ventilated area, away from incompatible substances.

Section 8: Exposure Controls

Routes of entry: Eyes, ingestion, inhalation, and skin.

Ventilation: Use adequate general or local exhaust ventilation to keep airborne concentrations below exposure limits.

Personal Protection: Wear appropriate protective eyeglasses or chemical safety goggles. Wear appropriate protective clothing to prevent skin contact. Use a NIOSH approved respirator when necessary.

Section 9: Physical and Chemical Properties

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|----------------------------------|-------------------------------|-------------------------------------|------------------------------------------------|
| Physical State: Aerosol | Odor: Mild hydrocarbon | Solubility: Insoluble | Evaporation Rate: Rapid |
| Boiling Point: 52°C/125°F | Specific Gravity: 0.80 | Vapor Pressure: 47 PSI @21°C | Vapor Density: 1.5 (Air=1) pH: 7 |

Section 10: Stability and Reactivity

Stability: Stable at normal temperatures and pressures.

Conditions to avoid: Temperatures over 40°C, ignition sources, and incompatible substances.

Incompatibilities: Finely divided metals, magnesium and alloys containing more than 2% magnesium. Alkali metals and alkaline earth metals-sodium, potassium and barium. Strong oxidizing agents.

Polymerization: Will not occur.

Decomposition: Carbon monoxide, carbon dioxide, hydrogen fluoride by thermal decomposition and hydrolysis.

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure) Repeated skin contact may cause defatting of the skin resulting in dermatitis. Long-term intensive inhalation may cause benign lung fibrosis.

Carcinogenicity: (risk of cancer) No

Teratogenicity: (risk of malformation in an unborn fetus) No

Reproductive Toxicity: (risk of sterility) No

Mutagenicity: (risk of heritable genetic effects) No

| Lethal Exposure Concentrations: | Ingestion (LD50): | Inhalation (LC50): | Skin (LD50): | Inhalation (TCLo): |
|---------------------------------|-------------------|--------------------|--------------|---------------------|
| 2,2 dimethylbutane | N/E | N/E | N/E | N/E |
| 3-methyl pentane | N/E | N/E | N/E | N/E |
| 2,3 dimethyl butane | N/E | N/E | N/E | N/E |
| 2 - methyl pentane | N/E | N/E | N/E | N/E |
| 1,1,1,2 tetrafluoroethane | N/E | 1500 gm/m3/4H Rat | N/E | 50000 ppm/6H/2Y Rat |
| n-hexane | 25 gm/kg Rat | 48000 ppm/4H Rat | N/E | 5000 ppm/24H Rat |

Section 12: Ecological Information

General Information:

Volatile Organic Compounds, % by weight: 75%
Volatile Organic Compounds, grams per litre: 600 g/l

Section 13: Disposal Information

General Information: Dispose of in accordance with all local, provincial, state, and federal regulations. Water runoff can cause environmental damage.

Section 14: Transportation Information

Ground Canada:

Classified as **Consumer Commodity**.

Recommend Shipper be trained and certified. Refer to TDG regulations (Canadian Transportation of Dangerous Goods regulations).

Ground USA:

Classified as **ORM-D**.

Recommend Shipper be trained and certified. Refer to USA CFR 49 Regulations (Parts 100 to 185).

Air:

Shipper must be trained and certified. Refer to IATA Dangerous Goods Regulations.

UN number: **1950**, Shipping Name: **AEROSOLS, Flammable**, Class: **2.1**, Flash Point: **-18°C**.
Refer to Pkg Instr Y203. Recommend using original MG Chemicals certified outer cartons. Tape all seams on the carton. Hazard Label required – Aerosols, flammable. A double arrow orientation label is required and is already printed on the original outer carton.

Sea - All Sizes:

Shipper must be trained and certified. Refer to IMDG regulations.

UN number: **1950**, Shipping Name: **AEROSOLS, Flammable**, Class: **2.1**, Flash Point: **-18°C**.
Storage category "A", segregation as for class 9 but away from sources of heat and separated from goods of class 1 except for those in division 1.4.

Section 15: Regulatory Information

CANADA

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all of the information required by the Controlled Products Regulations. **DSL**

All ingredients in this product are listed on the Domestic Substances List

Health Canada

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

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.

WHMIS

This product belongs to the following categories: **A, B5, D2B**

CAA (Clean Air Act, USA)

This product does not contain any class 1-ozone depletors.

This product does not contain any class 2-ozone depletors.

This product does not contain any chemicals listed as hazardous air pollutants.

USA

SARA (Superfund Amendments and Reauthorization Act of 1986, USA, 40CFR 372.4)

This product contains **n-Hexane** 2.25% CAS# 110-54-3 a chemical which is subject to the reporting requirements of section 313 Title III of the SARA of 1986 and CFR 372.4.

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

This product contains **n-Hexane** 2.25% CAS# 110-54-3 a chemical 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.

California Proposition 65 (Chemicals known to cause cancer or reproductive toxicity, May 1, 1997 revision, USA)

This product does not contain any chemicals listed.

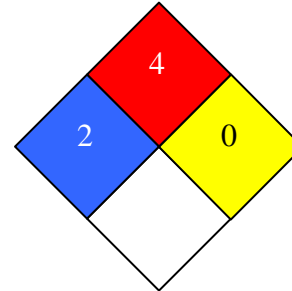
California Air Resource Board Consumer Products Regulations

This product complies with the Electronics Cleaner category limit of 75% VOC's by weight.

HMIS RATING

| | |
|-----------------------------|---|
| HEALTH: | 2 |
| FLAMMABILITY: | 3 |
| PHYSICAL HAZARD: | 0 |
| PERSONAL PROTECTION: | |

NFPA CODES



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

Definitions: N/A = not applicable, N/E = not established

Disclaimer: This material safety data sheet is provided as an information resource only. M.G. Chemicals believes the information contained herein is accurate and compiled from reliable sources. It is the responsibility of the user to verify its validity. The buyer assumes all responsibility of using and handling the product in accordance with federal, state, and local regulations.