

SAFETY WASH™ FOR ELECTRONICS

4050-LIQUID

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: Safety Wash™ for Electronics**Other Means Of Identification:** Safety Wash™ pour Électroniques**Related Part #** 4050-1L, 4050-4L, 4050-20L

Recommended Use and Restriction on Use

Use: Cleaner for electronic components

Uses Advised Against: Not available

Details of Manufacturer or Importer

Manufacturer

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

TEL +1-800-340-0772**FAX** +1-800-340-0773**E-MAIL** support@mgchemicals.com**WEB** www.mgchemicals.com**TEL** +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 serviceCANADA—Call CANUTEC collect at **+1-613-996-6666** or ***666** on cellular phones

SAFETY WASH™ FOR ELECTRONICS
4050-LIQUID
Section 2: Hazard(s) Identification
Classification of Hazardous Chemical
GHS Categories

Criteria	Category	Signal Word	Pictograms
Flammable liquid	2	Danger	Flame
Eye Irritation	2	Warning	Exclamation

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
	H319: Causes serious eye irritation
Prevention	Precautionary Statements
P102	Keep out of reach of children.
P210	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P280	Wear protective gloves and eye protection or face protection.
P264	Wash hands thoroughly after handling.
P233	Keep container tightly closed.
P240	Ground and bond container and receiving equipment.
P241	Use explosion-proof electrical equipment.
P243	Take action to prevent static charges.

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Continued...

Response	Precautionary Statements
P370 + P378	In case of fire: Use dry chemical, carbon dioxide, chemical foam, or water spray to extinguish.
P303 + P361 + P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water.
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.
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
Defats skin	Repeated exposure may cause skin dryness or cracking.	None	None

Section 3: Composition/Information on Ingredients

CAS #	Chemical Name	%(weight)
64-17-5	ethanol ^{a)}	90%
67-63-0	propan-2-ol ^{b)}	7%
141-78-6	ethyl acetate	3%

a) The mixture corresponds to denatured alcohol (grade DA-2I)

b) Commonly known as isopropyl alcohol (IPA)

SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****Section 4: First-Aid Measures**

<i>Exposure Condition</i>	<i>GHS Code/Symptoms/Precautionary Statements</i>
IF ON SKIN (or hair)	P303 + P361 + P353, P363
Immediate Symptoms	<i>redness, dry skin</i>
Response	Take off immediately all contaminated clothing. Rinse skin with water or shower. Wash contaminated clothing before reuse.
IF IN EYES	P305 + P351 + P338, P337 + P313
Immediate Symptoms	<i>redness, irritation, pain</i>
Response	Rinse cautiously with water for at least 20 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice or attention.
IF INHALED	P304 + P340
Immediate Symptoms	<i>low toxicity; drowsiness, dizziness, cough</i>
Response	Remove person to fresh air and keep comfortable for breathing.
IF SWALLOWED	P301 + P330, P331
Immediate Symptoms	<i>low toxicity; nausea, drowsiness, dizziness</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	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.

SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****Section 6: Accidental Release Measures**

Personal Protection	See personal protection recommendations in Section 8.
Precautions for Response	Remove or keep away all sources of ignition or extreme heat.
Environmental Precautions	Prevent spill from entering drains and waterways.
Containment Methods	Contain with inert and non-flammable absorbent (such as soil, sand, vermiculite).
Cleaning Methods	Collect liquid in a sealable, chemical-resistant container. Sprinkle inert absorbent compound onto spill, then sweep into the container. Wash 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. 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 equipment. Take action to prevent static charges.
Handling	Wear protective gloves, protective clothing, and eye protection. Wash hands thoroughly after handling.
Storage	Store in a well-ventilated place. Keep cool. Keep container tightly closed.

SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****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)
ethanol	ACGIH	Not established	1 000 ppm
	U.S.A. OSHA PEL	1 000 ppm	Not established
	Canada AB	1 000 ppm	Not established
	Canada BC	Not established	1 000 ppm
	Canada ON	Not established	1 000 ppm
	Canada QC	1 000 ppm	500 ppm
propan-2-ol	ACGIH	200 ppm (TWA)	400 ppm
	U.S.A. OSHA PEL	400 ppm	Not established
	Canada AB	200 ppm	400 ppm
	Canada BC	200 ppm	400 ppm
	Canada ON	200 ppm	400 ppm
	Canada QC	400 ppm	500 ppm
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 ACGIH¹, OSHA (Table Z-1), and Canadian provinces exposure limits were consulted. Limits from suppliers' SDSs were also consulted. Short term exposure limits (STEL) are usually for 15 min and long term permissible exposure limits (PEL) for 8 h.

Engineering Controls**Ventilation**

Keep airborne concentrations below the occupational exposure limits (OEL).

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SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****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, 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.

SAFETY WASH™ FOR ELECTRONICS
4050-LIQUID
Section 9: Physical and Chemical Properties

Physical State	Liquid	Lower Flammability Limit ^{b)}	3%
Appearance	Colorless	Upper Flammability Limit ^{b)}	18.5%
Odor	Alcohol-like	Vapor Pressure @20 °C ^{b)}	5.9 kPa [44 mmHg]
Odor Threshold	Not available	Vapor Density	≥1.6
pH	Not available	Relative Density @25 °C	0.79
Freezing/Melting Point	Not available	Solubility in Water	Miscible
Initial Boiling Point	≥78 °C [≥174 °F]	Partition Coefficient n-octanol/water	Not available
Flash Point ^{a)}	13 °C [55 °F]	Auto-ignition Temperature ^{c)}	363 °C [685 °F]
Evaporation Rate	Not available	Decomposition Temperature	Not available
Flammability	Not applicable	Viscosity @25 °C	Not available

a) Tag closed cup value

b) Calculated using Raoult's Law and Le Chatelier Principle

c) Auto-ignition value based on ethanol literature value, which is the component with the lowest auto-ignition temperature.

Section 10: Stability and Reactivity

Reactivity	Not available
Chemical Stability	Chemically stable at normal temperatures and pressures
Conditions to Avoid	Avoid ignition sources, open flames, and incompatible substances.
Incompatibilities	Strong oxidizing agents, strong acids, strong bases
Polymerization	Will not occur
Decomposition	Will not decompose under normal conditions. For thermal decomposition, see combustion products in Section 5.

SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****Section 11: Toxicological Information****Summary of Effects and Symptoms by Routes of Exposure**

Eyes	Causes redness, severe irritation, or pain.
Skin	May cause skin redness and dry skin.
Inhalation	At very high levels of overexposure, may cause cough and upper respiratory tract irritation.
Ingestion	Low acute oral toxicity, nausea (see also inhalation symptoms).
Chronic	Prolonged or repeated exposure may defat skin and cause skin dryness and cracking, and local redness and discomfort.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50 oral	LD50 dermal	LC50 inhalation
ethanol	7 060 mg/kg Rat	Not available	124 700 mg/m ³ 4 h Rat
propan-2-ol	4 700 mg/kg Rat	12 800 mg/kg Rabbit	16 000 ppm 8 h Rat
ethyl acetate	5 620 mg/kg Rat	>20 000 µL/kg Rabbit	45 g/m ³ 2 h Mouse

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

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SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****Other Toxicological Effects****Skin corrosion/irritation**

Based on available data, the classification criteria are not met.

Serious eye damage/irritation

Ethanol, propan-2-ol, and ethyl acetate cause serious eye irritation.

Sensitization
(allergic reactions)

Based on available data, the classification criteria are not met.

Carcinogenicity
(risk of cancer)

Except for ethanol, none of the ingredients are classified or listed as a carcinogen by IARC, ACGIH, CA Prop 65, or NTP.

Evidence of carcinogenicity of ethanol relates to excessive alcoholic beverage consumption, and doesn't relate to exposure risks when used in the workplace or as a non-comestible consumer product.

Ethanol [CAS# 64-17-5]

IARC Group 1: Possibly carcinogenic to humans in the form of alcoholic beverages

ACGIH A4: Not classified as a human carcinogen

CA Prop 65: Listed as a carcinogen when consumed as a beverage

NTP: When in alcoholic beverage consumption, it is listed as a known carcinogen

Mutagenicity
(risk of heritable genetic effects)

Based on available data, the classification criteria are not met.

Reproductive Toxicity
(risk to sex functions)

Evidence of reproductive toxicity of ethanol is insufficient and relates to excessive consumption of alcoholic beverages. It does not the risks of exposure when used in the workplace or as a non-edible product.

By inhalation, no effects on fertility or development are observed at exposure levels of up to 16 000 ppm.

Ethanol [CAS# 64-17-5]

CA Prop. 65 (California Proposition 65) : Listed as toxic for reproduction when consumed as a drink.

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SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****Teratogenicity** (risk of fetus malformation)

Based on available data, the classification criteria are not met.

The evidence of teratogenic effects of ethanol relates to deliberate alcoholic beverage overconsumption. It doesn't relate to workplace exposure risks or to non-comestible product uses.

STOT-single exposure

Based on available data, the classification criteria are not met.

STOT-repeated exposure

Based on available data, the classification criteria are not met.

Aspiration hazard

Based on available data, the classification criteria are not met. There is no category 1 components.

Section 12: Ecological Information

Ecological classifications are based on the IMDG criteria in conjunction with ecotoxicological data from our suppliers, the European Chemical Agency database (<http://echa.europa.eu>), and other reliable sources.

Based on available data, the ethanol, propan-2-ol, and ethyl acetate mixture does not meet the environmental toxicant classification with LC50 and EC50 >100 mg/L.

- Ethanol is not classifiable as an environmental toxicant with a minimal LC50 96 h of 12 000 mg/L for *Oncorhynchus mykiss* (rainbow trout) and EC50 of 5 770 mg/L for *Pimephales promelas* (fathead minnow); LC50 48 h of 5 012 mg/L for *Cerodaphnia* sp.
- Propan-2-ol has a minimal LC50 96 h of 9 640 mg/L for *Pimephales promelas* (fathead minnow); an EC50 24 h of 5 102 mg/L *Daphnia magna* (water flea); and an EC50 72 h of 2 000 mg/L *Desmodesmus subspicatus* (green algae).
- Ethyl acetate is has a minimal LC50 96 h of 220 mg/L for *Pimephales promelas* (fathead minnow); a LC50 48 h of 560 mg/L and EC50 24 h of 2 300 mg/L *Daphnia magna* (water flea); and an EC50 72 h 1 800 mg/L for *Selenastrum*.

Acute Ecotoxicity

Based on available data, the classification criteria are not met.

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SAFETY WASH™ FOR ELECTRONICS
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Chronic Ecotoxicity

A Based on available data, the classification criteria are not met.

Biodegradability

Presumed to be readily biodegradable. The volatile constituents will oxidize rapidly in air by photochemical reaction.

Other Effects

Regulated Volatile Organic Content (VOC) by the US EPA and Canadian CEPA = 100% (791 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 1 L and under

4050-1L

Limited Quantity



Sizes greater than 1 L

4050-4L, 4050-20L

UN number: UN1987

Shipping Name: ALCOHOLS, N.O.S.
(Ethanol and isopropanol)

Class: 3

Packing Group: II

Marine Pollutant: No



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SAFETY WASH™ FOR ELECTRONICS
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Air
Refer to ICAO-IATA Dangerous Goods Regulations.

Sizes 1 L and under

Not available

Limited Quantity

Net QTY per Inner

Container = 0.5 L



Sizes up to 5 L (passenger) or 60 L (cargo)

4050-1L, 4050-4L, 4050-20L

UN number: UN1987

Shipping Name: ALCOHOLS, N.O.S.
(Ethanol and isopropanol)

Class: 3

Packing Group: II

Marine Pollutant: No


Sea
Refer to IMDG regulations.

Sizes 1 L and under

4050-1L

Limited Quantity


Sizes greater than 1 L

4050-4L, 4050-20L

UN number: UN1987

Shipping Name: ALCOHOLS, N.O.S.
(Ethanol and isopropanol)

Class: 3

Packing Group: II

Marine Pollutant: No



Note: Shipper must be appropriately trained and certified 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.

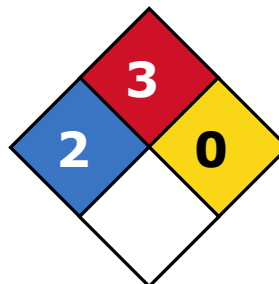
Hazardous Products Act (R.S.C., 1985, c. H-3)

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

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SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****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 5% propan-2-ol (CAS# 67-63-0) 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 1.5% ethyl acetate (CAS# 141-78-6), 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 ethanol, which is listed as reproductively toxic and as a carcinogen when in an alcoholic beverage. Ethanol is also listed as a carcinogen when consumed as a beverage.

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SAFETY WASH™ FOR ELECTRONICS**4050-LIQUID****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

SDS Prepared by MG Chemical's Regulatory Department

Date of Review 06 December 2023

Supersedes 05 March 2020

Reason for Changes: Minor updates.

Reference

1) ACGIH 2023 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 (2023).

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

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SAFETY WASH[™] FOR ELECTRONICS**4050-LIQUID**

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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