

SAI Global File #004008

Burlington, Ontario, Canada

406B-A

SUPER WASHTM ELECTRONICS CLEANER

Safety Data Sheet

Section 1: Identification

Product Identifier and Other Means of Identification

Product Identifier: 406B-a

Other Means of Identification: Super Wash™ Electronics Cleaner

Related Part # 406B-425G, 406B-425GCA

Recommended Use and Restriction on Use

Use: Zero residue electronic cleaner

Uses Advised Against: Do NOT use on live circuits or in presence of ignition source

Details of Manufacturer or Importer

Manufacturer

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

FAX +1-800-340-0772 +1-800-340-0773

E-MAIL support@mgchemicals.com E-MAIL info@mgchemicals.com

WEB www.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
Aspiration Hazard		1	Danger	Health
Reproductive Toxicity		2	Warning	Health
Flammable Aerosol		2	Warning	Flame
Gases Under Pressure		Liquefied gas	Warning	Gas cylinder
Skin Irritation		2	Warning	Exclamation
Specific Target Organ Toxicity	Single Exposure	3	Warning	Exclamation
Hazardous to the Aquatic Environment	Chronic	2	none	Environment

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

Label Elements

Signal Word	DANGER
Pictograms	Hazard Statements
	H223: Flammable aerosol
	H280: Contains gas under pressure; may explode if heated
	H304: May be fatal if swallowed and enters airways
	H361: Suspected of damaging fertility or the unborn child

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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
_	H315: Causes skin irritation
<u>(i)</u>	H336: May cause drowsiness or dizziness
***	H411: Toxic to aquatic life with long lasting effects
Prevention	Precautionary Statements
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.
P261	Avoid breathing mist/vapors/spray.
P271	Use only outdoors or in a well-ventilated area.
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.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection.
P273	Avoid release to the environment.
Response	Precautionary Statements
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P301 + P310, P331	IF SWALLOWED: Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.
P302 + P352	IF ON SKIN: Wash with plenty of water.
P332 + P313	If skin irritation occurs: Get medical advice/attention.
P362 + P364	Take off contaminated clothing and wash it before reuse.
P304 + P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.

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Response	Precautionary Statements
P312	Call a POISON CENTER/doctor if you feel unwell.
P391	Collect spillage.
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.
Disposal	Precautionary Statements
P501	Dispose of contents/container in accordance to local/regional/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)
107-83-5	methyl-2-pentane	15-40%
96-14-0	methyl-3-pentane	10-30%
79-29-8	dimethyl-2,3-butane	10-30%
811-97-2	1,1,1,2-tetrafluoroethane ^{a)}	25%
75-83-2	dimethyl-2,2-butane	7-13%
109-66-0	pentane	3-7%
110-54-3	n-hexane	1-5%

a) Commonly referred to as HFC-134a

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Section 4: First-Aid Measures			
Exposure Condition	GHS Code/Symptoms/Precautionary Statements		
IF SWALLOWED	P301 + P310, P331, P308 + P313		
Immediate Symptoms	nausea, weakness, headache, abdominal pain, drowsiness, dizziness, unconsciousness		
Response	Immediately call a POISON CENTER/doctor. Do NOT induce vomiting.		
	IF exposed or concerned: Get medical advice/attention.		
IF ON SKIN	P302 + P352, P332 + P313, P362 + P364, P308 + P313		
Immediate Symptoms	dry skin, redness, irritation		
Response	Wash with plenty of water.		
	If skin irritation occurs: Get medical advice/attention.		
	Take off contaminated clothing and wash it before reuse.		
	IF exposed or concerned: Get medical advice/attention.		
IF INHALED	P304 + P340, P312, P308 + P313		
Immediate Symptoms	nausea, weakness, headache, drowsiness, dizziness, respiratory irritation, unconsciousness		
Delayed Symptoms	deep and rapid breathing, nausea		
Response	Remove person to fresh air and keep comfortable for breathing.		
	Call a POISON CENTER/doctor if you feel unwell.		
	IF exposed or concerned: Get medical advice/attention.		
IF IN EYES	P305 + P351 + P338, P308 + P313		
Immediate Symptoms	low toxicity: redness, pain		
Response	Rinse cautiously with water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing.		
	IF exposed or concerned: Get medical advice/attention.		

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Section 5: Fire-Fighting Measures

Extinguishing Media In case of fire: Use dry chemical, carbon dioxide, chemical foam.

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.

Prevent fire-fighting wash from entering waterway or sewer

system.

Combustion Products Produces carbon oxides (CO, CO₂), fluorinated compounds, and

hydrogen fluorides.

Fire-Fighter Wear self-contained breathing apparatus and full fire-fighting

turn-out gear.

Section 6: Accidental Release Measures

Personal Protection See personal protection recommendations in Section 8.

Precautions for

Remove or keep away all sources of extreme heat or open

Response

flames. Avoid breathing the mist/spray/vapors.

Environmental Precautions

Avoid releasing to the environment. 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.



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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, hot surfaces, sparks, open flames and other ignition sources. Do not spray on an open flame or other

ignition source. Do not pierce or burn, even after use.

Avoid breathing mist/vapors/spray. Use only outdoors or in a

well-ventilated area.

Handling Wear protective gloves/protective clothing/eye protection/face

protection.

Wash hands thoroughly after handling.

Avoid release to the environment.

Storage Protect from sunlight. Do not expose to temperatures exceeding

50 °C [122 °F].

Store in a well-ventilated place.

Store locked up.

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)
methyl-2-pentane	ACGIH	500 ppm	1 000 ppm
Hexane isomers	U.S.A. OSHA PEL	(500 ppm) ^{a)}	(1 000 ppm) ^{a)}
(except n-Hexane)	Canada AB	500 ppm	1 000 ppm
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000 ppm
	Canada QC	500 ppm	1 000 ppm
methyl-3-pentane	ACGIH	500 ppm	1 000 ppm
Hexane isomers	U.S.A. OSHA PEL	(500 ppm) ^{a)}	(1 000 ppm) ^{a)}
(except n-Hexane)	Canada AB	500 ppm	1 000 ppm
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000 ppm
	Canada QC	500 ppm	1 000 ppm

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Chemical Name	Country	Long Term Exposure Limits (PEL)	Short Term Exposure Limits (STEL)
dimethyl-2,3-butane	ACGIH	500 ppm	1 000 ppm
Hexane isomers	U.S.A. OSHA PEL	(500 ppm) ^{a)}	(1 000 ppm) a)
(except n-Hexane)	Canada AB	500 ppm	1 000 ppm
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000 ppm
	Canada QC	500 ppm	1 000 ppm
1,1,1,2-	MG Chemicals a)	1 000 ppm	Not established
tetrafluoroethane	ACGIH	Not established	Not established
	U.S.A. OSHA PEL	Not established	Not established
	Canada	Not established	Not established
dimethyl-2,2-butane	ACGIH	500 ppm	1 000 ppm
Hexane isomers	U.S.A. OSHA PEL	(500 ppm) ^{a)}	(1 000 ppm) ^{a)}
(except n-Hexane)	Canada AB	500 ppm	1 000 ppm
	Canada BC	200 ppm	Not established
	Canada ON	500 ppm	1 000 ppm
	Canada QC	500 ppm	1 000 ppm
pentane	ACGIH	600 ppm	Not established
	U.S.A. OSHA PEL	1 000 ppm	Not established
	Canada AB	600 ppm	Not established
	Canada BC	600 ppm	Not established
	Canada ON	600 ppm	Not established
	Canada QC	120 ppm	Not established
n-hexane	ACGIH	50 ppm ^{b)}	Not established
	U.S.A. OSHA PEL	500 ppm	Not established
	Canada AB	50 ppm	Not established
	Canada BC	20 ppm ^{b)}	Not established
	Canada ON	50 ppm ^{b)}	Not established
	Canada QC	50 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' SDS were also consulted. Short term exposure limits (STEL) are for 15 min and long term permissible exposure limits (PEL) for 8 h.

- a) Value vacated (retracted) under court order, but still in effect in some states.
- b) Skin significant exposure through skin route

Engineering Controls

Ventilation

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

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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/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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Immiscible

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Section 9: Physical and Chemical Properties

Physical State	Liquid, in aerosol	Lower Flammability	1%

format Limit

Appearance Clear **Upper Flammability** 7%

Limit

Odor Mild hydrocarbon **Vapor Pressure** 33 kPa

@20 °C [250 mmHg]

Odor Threshold Not Vapor Density 3

available (Air = 1)

pH Not Relative Density 0.66

available

Freezing/Melting Not Solubility in

Point available Water

Initial Boiling52 °CPartition CoefficientNotPoint[125 °F]n-octanol/wateravailable

Flash Point a) -29 °C Auto-ignition Not

[-20 °F] **Temperature** available

Evaporation 0.8 Decomposition Not

Rate (Ether = 1) Temperature available

Flammability Flammable Viscosity <20.5 mm²/s **@40 °C**

a) Closed cup flash point

Section 10: Stability and Reactivity

Reactivity Not available

Chemical Stability Chemically stable at normal temperatures and pressures

Conditions to Temperatures above 50 °C [122 °F], open flames, other ignition

Avoid sources and incompatible substances.

Incompatibilities Strong oxidizing agents, strong acids, strong bases, halogenated

compounds, aluminum at temperatures ≥49 °C [≥120 °F], peroxides.

Polymerization Will not occur

Decomposition Will not decompose under normal conditions. For thermal

decomposition, see combustion products in Section 5.

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Section 11: Toxicological Information

Summary of Effects and Symptoms by Routes of Exposure

Skin May cause dry skin, redness, and irritation. **Eyes** Low toxicity: May cause redness and pain.

Inhalation May cause nose, throat and lung irritation. Overexposure may lead to

visual impairment and central nervous system effects such as dizziness,

drowsiness, or weakness

Ingestion Swallowing the liquid may cause aspiration into the lungs with the risk of

chemical pneumonitis. See inhalation symptoms.

Chronic Prolonged or repeated exposure may cause skin dryness, cracking, as well

as defatting the skin.

Ingestion or inhalation of paint material, mist, or vapor during pregnancy

may increase the chances fetal death and developmental defects.

Acute Toxicity (Lethal Exposure Concentrations)

Chemical Name	LD50	LD50	LC50
	oral	dermal	inhalation
methyl-2-pentane	Not	Not	3 125 ppm
	available	available	4 h Rat ^{a)}
methyl-3-pentane	Not	Not	Not
	available	available	available
dimethyl-2,3-butane	Not	Not	Not
	available	available	available
1,1,1,2-tetrafluoroethane	Not	Not	1 500 g/m³
	available	available	4 h Rat
dimethyl-2,2-butane	Not	Not	Not
	available	available	available
n-hexane	15 480 mg/kg	>1.3 g/kg	627 000 ppm
	Rat	Rabbit	3 min Rat

Note: Toxicity data from the ECHA databases were consulted. The data from supplier SDS were also consulted.

a) Supplier SDS

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Other Toxicological Effects

Skin corrosion/irritation Causes skin irritation.

Serious eye damage/irritation

Based on available data, the classification criteria are not

met

Sensitization

Based on available data, the classification criteria are not

met.

(allergic reactions)

Carcinogenicity

Not classified or listed as a carcinogen by IARC, ACGIH,

CA Prop 65, or NTP.

(risk of cancer)

Mutagenicity

Based on available data, the classification criteria are not

met.

(risk of heritable genetic effects)

Based on available data, the classification criteria are not

met.

Reproductive Toxicity (risk to sex functions)

The n-hexane component was found to harm fetus in

Teratogenicity(risk of fetus malformation)

animal studies.

STOT-single exposure

Hexane isomers 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

Mixture is a class 1 aspiration hazard. It contains over

10% class 1 aspiration hazard components and has a

mixture viscosity of <20.5 mm²/s at 40 °C.

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.

Similar mixtures of isoalkanes C6-C7 with <5% n-hexane have a LC50 of 11.4 mg/L for rainbow trout (Oncorhynchus mykiss) 96 h, and an EL50 of 3.0 mg/L water flea (Daphnia magna) 48 h.

Acute Ecotoxicity

See chronic ecotoxicity.

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Chronic Ecotoxicity

Category 2

Toxic to aquatic life with long lasting effects

Avoid release to the environment. Collect spillage.

Biodegradability

Not available

Other Effects

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

Actual VOC = 75% [495 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.

Limited Quantity



Air

Refer to ICAO-IATA Dangerous Goods Regulations.

Limited Quantity



UN number: UN1950 **Shipping Name:** AEROSOLS, flammable

Packing Group: Not applicable

Marine Pollutant: Yes

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Sea

Refer to IMDG regulations.

Limited Quantity



UN number: UN1950 **Shipping Name**: AEROSOLS, flammable

Class: 2.1

Packing Group: Not applicable

Marine Pollutant: Yes

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.

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)

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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 n-hexane (CAS# 110-54-3) which has a 5 000 lb reporting quantity requirements in 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, USA).

This product contains n-hexane, which is listed as reproductively toxic.

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 Chemicals' Regulatory Department

Date of Review 28 March 2024 Supersedes 05 March 2020

Reason for Changes: Contains gas under pressure; may explode if heated.

Reference

1) ACGIH 2024 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 (2024).

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Abbreviations

ACGIH American Conference of Governmental Industrial Hygienists (USA)

ECHA European Chemicals Agency

EU European Union

EC50 Half maximal effective concentration

EL50 Half maximal effective loading

International Agency for Research on Cancer **IARC**

NOELR No observable effect loading ratio National Toxicology Program NTP

Globally Harmonized System of Classification of Labeling of Chemicals GHS

LC50 Lethal Concentration 50%

Lowest published lethal concentration LCLo

LD50 Lethal Dose 50%

Occupational Exposure Limit OEL Permissible Exposure Limit PEL

SDS Safety Data Sheet

Short-Term Exposure Limit STEL

TCLo Lowest published toxic concentration

Time Weighted Average TWA VOC Volatile Organic Content

Technical Oueries Contact us regarding any questions, improvement suggestions, or problems with this product. Application notes, instructions, and FAOs are located at www.mgchemicals.com.

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