

Heavy Duty Flux Remover 413B



Penetrates to quickly remove all non-ionic and ionic soils found in post-solder applications.

For use on the non-component side of circuit boards.

- Evaporates quickly
- Extra effective with [M.G. Chemicals' Cleaning Brushes](#)
- Extra strength, may be harmful to some plastics
- Variable valve allows user to control rate of flow
- Flammable solvent

Available Sizes

Catalog Number	Sizes Available	Description
413B-425G	425g (15 oz)	Aerosol
413B-1L	1L (33 oz)	Liquid
413B-4L	4L (1 gal)	Liquid
413B-20L	20L (5 gal)	Liquid



Material Safety Data Sheet

Revision Date Oct. 30, 2007	Prepared by Patti Rogers	Technical Information 1-800-201-8822 or support@mgchemicals.com
Head Office 9347 - 193 Street, Surrey, B.C., V4N 4E7		Emergency Phone Canutech (613) 996-6666 Collect 24 hrs

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

Section 1: Product Identification

MSDS Code: 413B - liquid **Name: Heavy Duty Flux Remover**

Related Part Numbers: 413B-1L; 413B-4L; 413B-20L

Use: Removing flux.

Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha Pel	Osha Stel
67-63-0	2-propanol	5 - 20	400ppm	400ppm	500ppm
141-78-6	Ethyl acetate	40 - 70	400ppm	400ppm	500ppm
67-64-1	2-propanone	10 - 40	750ppm	1000ppm	1000ppm

Section 3: Hazards Identification

WHMIS Codes: B2, D2B

NFPA Ratings: Health 2 Flammability 3 Reactivity 0

HMIS Ratings: Health 2 Flammability 4 Reactivity 0

Eyes: Liquid in contact with eyes may cause permanent damage.

Skin: May cause skin irritation and possible pain and stinging if skin is abraded.

Inhalation: Solvents may cause respiratory tract irritation, liver and kidney damage, and adverse central nervous system effects. Propellant is an asphyxiant; high concentrations in the air can cause a deficiency of oxygen with the risk of unconsciousness.

Ingestion: May cause respiratory and digestive tract irritation. May cause kidney damage, and central nervous system depression.

Chronic: Long-term intensive exposure may cause liver or kidney damage.

Section 4: First Aid Measure

Eyes: Remove contact lenses. Flush with water or saline for 20 minutes. Get medical aid.

Skin: Wash skin with large quantities of 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

Autoignition Temperature:	450°C	Flash Point:	-18°C	LEL / UEL:	2 / 13
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. Vapors may form an explosive mixture with air. Vapors can travel to source of ignition and flash back.				

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.
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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

Physical State:	Liquid	Odor:	Ethereal	Solubility:	Partial	Evaporation Rate:	6 (ether=1)		
Boiling Point:	42°C	Specific Gravity:	0.86	Vapor Pressure:	1.02PSI @21°C	Vapor Density:	2.6 (Air=1)	pH:	N/a

Section 10: Stability and Reactivity

Stability:	Stable at normal temperatures and pressures.
Conditions to avoid:	Temperatures over 40°C, ignition sources, and incompatible materials. Exposure to moist air or water.
Incompatibilities:	Alkali and alkaline earth metals, acids, acid chlorides, acid anhydrides, oxidizing agents, reducing agents, powdered aluminum, zinc, magnesium, and beryllium. hydrogen peroxide, potassium hydroxide, potassium t-butoxide, nitrogen tetroxide, and liquid nitrogen.
Polymerization:	Will not occur.
Decomposition:	Carbon monoxide, carbon dioxide, hydrogen chloride, phosgene, hydrofluoric acid, and carbonyl fluoride.

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure)	Repeated skin contact may cause dermatitis.
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): 2737mg/kg (mouse)	Inhalation (LC50): 23500mg/m ³ /8H	Skin (LD50): N/e

Section 12: Ecological Information

General Information: Avoid runoff into storms and sewers, which lead into waterways. Water runoff can cause environmental damage.

Environmental Impact Data: (percentage by weight)

CFC: 0 **HFC:** 0 **Cl.Solv:** **VOC:** 100 **HCFC:** 0 **ODP:** 0

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: (all sizes 1 liter or less)

Consumer Commodity, ORM-D.

Ground: (all sizes larger than 1 liter)

Shipping Name – Flammable liquid N.O.S. [ethyl acetate] Flash Point 17°C, Class 3, UN# 1993, Packing Group II, Subsidiary Risk – nil, Use only MG Chemicals certified outer cartons. Tape all seams on the carton. Hazard Label required – Flammable Liquid. A double arrow orientation label is required and is already printed on the original outer carton. Shipper must be trained and certified to handle dangerous documented goods. Refer to CFR 49, TDG regulations (Canada).

Air:

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

Sea:

UN# 1933. Class 3. Packing group II. Shipper must be trained and certified. Refer to IMDG regulations.

Section 15: Regulatory Information

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.

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

None of the chemicals in this product have a reportable quantity.

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

This product does not contain any chemicals 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.

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 hazardous air pollutants.

Material Safety Data Sheet

Section 1: Product Identification

MSDS Code: 413B - aerosol **Name: Heavy Duty Flux Remover**

Related Part Numbers: 413B-425G

Use: Removing flux.

Section 2: Hazardous Ingredients

CAS#	Chemical Name	Percentage by weight	ACGIH TWA	Osha PeI	Osha Stel
75-37-6	1,1-Difluoroethane	5 - 30	N/e	N/e	N/e
67-63-0	2-propanol	5 - 20	400ppm	400ppm	500ppm
141-78-6	Ethyl acetate	30 - 60	400ppm	400ppm	500ppm
67-64-1	2-propanone	10 - 40	750ppm	1000ppm	1000ppm

Section 3: Hazards Identification

WHMIS Codes: A, B5, D2B

NFPA Ratings: Health 2 Flammability 3 Reactivity 0

HMIS Ratings: Health 2 Flammability 4 Reactivity 0

Eyes: Liquid in contact with eyes may cause permanent damage.

Skin: May cause skin irritation with pain and stinging, especially if skin is abraded.

Inhalation: Solvents may cause respiratory tract irritation, liver and kidney damage, and adverse central nervous system effects. Propellant can asphyxiate; high concentrations in the air can cause a deficiency of oxygen with the risk of unconsciousness.

Ingestion: May cause respiratory and digestive tract irritation. May cause kidney damage, and central nervous system depression.

Chronic: Prolonged or repeated exposure may cause dermatitis and defatting of the skin.

Section 4: First Aid Measure

Eyes: Remove contact lenses. Flush with water or saline for 20 minutes. Get medical aid.

Skin: Wash skin with large quantities of 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

Autoignition Temperature:	450°C	Flash Point:	-18°C	LEL / UEL:	2 / 13
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. Vapors may form an explosive mixture with air. Vapors can travel to source of ignition and flash back.				

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.
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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

Physical State:	Aerosol	Odor:	Ethereal	Solubility:	Partial	Evaporation Rate:	7.7 (ether=1)		
Boiling Point:	-9°C	Specific Gravity:	1.05	Vapor Pressure:	48 PSI @21°C	Vapor Density:	2.5 (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 materials. Exposure to moist air or water.
Incompatibilities:	Alkali and alkaline earth metals, acids, acid chlorides, acid anhydrides, oxidizing agents, reducing agents, powdered aluminum, zinc, magnesium, and beryllium. Hydrogen peroxide, potassium hydroxide, potassium t-butoxide, nitrogen tetroxide, and liquid nitrogen.
Polymerization:	Will not occur.
Decomposition:	Carbon monoxide, carbon dioxide, hydrogen chloride, phosgene, hydrofluoric acid, and carbonyl fluoride.

Section 11: Toxicological Information

Sensitization: (effects of repeated exposure)	Repeated skin contact may cause dermatitis.		
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): 2737mg/kg (mouse)	Inhalation (LC50): 23500mg/m ³ /8H	Skin (LD50): N/e

Section 12: Ecological Information

General Information: Avoid runoff into storms and sewers, which lead into waterways. Water runoff can cause environmental damage.

Environmental Impact Data: (percentage by weight)

CFC: 0 **HFC:** 0 **Cl.Solv:** **VOC:** 100 **HCFC:** 0 **ODP:** 0

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:

Consumer Commodity, ORM-D

Air:

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

Sea:

UN# 1950. Class 2.1. Shipper must be trained and certified. Refer to IMDG regulations.

Section 15: Regulatory Information

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.

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This product does not contain any hazardous air pollutants.