



MATERIAL SAFETY DATA SHEET

Section 1: Product & Company Identification

Product Name: Super Degreaser™ MUO (aerosol)

Product Number (s): 03910

Product Use: General purpose degreaser

Manufacturer / Supplier Contact Information:

In United States:

CRC Industries, Inc.

885 Louis Drive

Warminster, PA 18974

www.crcindustries.com

1-215-674-4300 (General)

(800) 521-3168 (Technical)

(800) 272-4620 (Customer Service)

In Canada:

CRC Canada Co.

2-1246 Lorimar Drive

Mississauga, Ontario L5S 1R2

www.crc-canada.ca

1-905-670-2291

In Mexico:

CRC Industries Mexico

Av. Benito Juárez 4055 G

Colonia Orquídea

San Luís Potosí, SLP CP 78394

www.crc-mexico.com

52-444-824-1666

24-Hr Emergency – CHEMTREC: (800) 424-9300 or (703) 527-3887

Section 2: Hazards Identification

Emergency Overview

WARNING: Vapor Harmful. Contents Under Pressure.

Appearance & Odor: Clear, colorless liquid with a strong odor

Potential Health Effects:

ACUTE EFFECTS:

EYE: May cause moderate irritation ranging from redness to burning.

SKIN: May cause moderate irritation ranging from redness to burning.

INHALATION: May irritate nose, throat and lungs. Symptoms include coughing, wheezing, and laryngitis. Exposure to high doses may cause central nervous system depression, including headache, nausea, giddiness, confusion and delirium. Such doses may also cause adverse effects in liver, kidney and lung.

INGESTION: Low toxicity; not expected to be a hazard in normal use.

CHRONIC EFFECTS: Long term overexposure may lead to central nervous system, liver or kidney effects.

TARGET ORGANS: central nervous system, liver, kidney

Medical Conditions Aggravated by Exposure: dermatitis, respiratory disorders, central nervous system disorders

See Section 11 for toxicology and carcinogenicity information on product ingredients.

Section 3: Composition/Information on Ingredients

COMPONENT	CAS NUMBER	% by Wt.
1-Bromopropane (nPB)	106-94-5	> 90
t-Butanol	75-65-0	< 3
1,2-Butylene oxide	106-88-7	< 1
Carbon Dioxide	124-38-9	< 5

Section 4: First Aid Measures

Eye Contact: Immediately flush with plenty of water for 15 minutes. Call a physician if irritation persists.

Skin Contact: Remove contaminated clothing and wash affected area with soap and water. Call a physician if irritation persists. Wash contaminated clothing prior to re-use.

Inhalation: Remove person to fresh air. Keep person calm. If not breathing, give artificial respiration. If breathing is difficult give oxygen. Call a physician.

Ingestion: Wash mouth with plenty of water. If conscious, give person a glass of water to drink. Call a physician.

Note to Physicians: Treat symptomatically.

Section 5: Fire-Fighting Measures

Flammable Properties: This product is not flammable in accordance with aerosol flammability definitions. (See 16 CFR 1500.3(c)(6)). However, it could be made to burn or flash under certain conditions.

Flash Point:	None (TCC)	Upper Explosive Limit:	8.0
Autoignition Temperature:	914°F / 490°C	Lower Explosive Limit:	4.0

Fire and Explosion Data:

Suitable Extinguishing Media: Carbon dioxide, dry chemical, foam, Class B fire extinguisher

Products of Combustion: Hydrogen bromide or bromine, oxides of carbon

Explosion Hazards: Aerosol containers, when exposed to heat from fire, may build pressure and explode.

Protection of Fire-Fighters: Firefighters should wear self-contained, NIOSH-approved breathing apparatus for protection against suffocation and possible toxic decomposition products. Proper eye and skin protection should be provided. Use water spray to keep fire-exposed containers cool and to knock down vapors which may result from product decomposition.

Section 6: Accidental Release Measures

Personal Precautions: Use personal protection recommended in Section 8.

Environmental Precautions: Take precautions to prevent contamination of ground and surface waters. Do not flush into sewers or storm drains.

Methods for Containment & Clean-up: Dike area to contain spill. Ventilate the area with fresh air. If in confined space or limited air circulation area, clean-up workers should wear appropriate

respiratory protection. Recover or absorb spilled material using an absorbent designed for chemical spills. Place used absorbents into proper waste containers.

Section 7: Handling and Storage

Handling Procedures: Wear appropriate personal protective equipment. Use only with adequate ventilation. Open doors or windows to provide fresh air in poor circulation areas. Use caution around energized equipment. The metal container will conduct electricity if it contacts a live source. This may result in injury to the user from electrical shock and/or flash fire. For product use instructions, please see the product label.

Storage Procedures: Store in a cool dry area out of direct sunlight. Aerosol cans must be maintained below 120°F / 49°C to prevent cans from rupturing.

Aerosol Storage Level: I

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines:

COMPONENT	OSHA		ACGIH		OTHER		UNIT
	TWA	STEL	TWA	STEL	TWA	SOURCE	
1-Bromopropane (nPB)	NE	NE	10	NE	25	EPA	ppm
t-Butanol	100	NE	100	NE	NE		ppm
1,2-Butylene oxide	NE	NE	NE	NE	2	AIHA	ppm
Carbon dioxide	5000	30000(v)	5000	30000	NE		ppm
N.E. – Not Established (c) – ceiling (s) – skin (v) – vacated							

Controls and Protection:

Engineering Controls: Area should have ventilation to provide fresh air. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at the source, preventing dispersion into the general work area. Use mechanical means if necessary to maintain vapor levels below the exposure guidelines. If working in a confined space, follow applicable OSHA regulations.

Respiratory Protection: None required for normal work where adequate ventilation is provided. If engineering controls are not feasible or if exposure exceeds the applicable exposure limits, use a NIOSH-approved cartridge respirator with organic vapor cartridge. Air monitoring is needed to determine actual employee exposure levels. Use a self-contained breathing apparatus in confined spaces and for emergencies.

Eye/face Protection: For normal conditions, wear safety glasses. Where there is reasonable probability of liquid contact, wear splash-proof goggles.

Skin Protection: Use protective gloves such as Viton or Norfoil. Also, use full protective clothing if there is prolonged or repeated contact of liquid with skin.

Section 9: Physical and Chemical Properties

Physical State: liquid
Color: clear, colorless
Odor: strong solvent odor

Odor Threshold: ND
 Specific Gravity: 1.33
 Initial Boiling Point: 160°F / 71°C
 Freezing Point: ND
 Vapor Pressure: 112 mmHg @ 68°F / 20°C
 Vapor Density: ~ 4.3 (air = 1)
 Evaporation Rate: fast
 Solubility: 0.25 g/100 mL @ 68°F / 20°C
 Coefficient of water/oil distribution: ND
 pH: NA
 Volatile Organic Compounds: wt %: 96 g/L: 1265 lbs./gal: 10.9

Section 10: Stability and Reactivity

Stability: Stable
 Conditions to Avoid: Keep away from ignition sources
 Incompatible Materials: Strong oxidizers and strong bases
 Hazardous Decomposition Products: Hydrogen bromide and/or bromine, oxides of carbon
 Possibility of Hazardous Reactions: No

Section 11: Toxicological Information

Long-term toxicological studies have not been conducted for this product. The following information is available for components of this product.

Acute Toxicity:

Component	Oral LD50 (rat)	Dermal LD50 (rabbit)	Inhalation LC50 (rat)
1-Bromopropane (nPB)	4260 mg/kg	No data	253 g/m ³ /30M
t-Butanol	3500 mg/kg	> 2 g/kg	> 10,000 ppm/4H
1,2-Butylene oxide	500 mg/kg	2100 µL/kg	6300 mg/m ³ /4H
Carbon dioxide	No data	No data	470,000 ppm/30M

Chronic Toxicity:

Component	OSHA Carcinogen	IARC Carcinogen	NTP Carcinogen	Irritant	Sensitize
1-Bromopropane (nPB)	No	No	No	E, S & R (mild)	Unknown
t-Butanol	No	No	No	Unknown	Unknown
1,2-Butylene oxide	No	Group 2B	No	E, S & R (mild)	Unknown
Carbon dioxide	No	No	No	No	No

E – Eye S – Skin R - Respiratory

Reproductive Toxicity: No information available
Teratogenicity: No information available
Mutagenicity: 1-Bromopropane (nPB): Ames test – negative
 1,2-Butylene oxide: in vitro mutagenicity studies were positive
 animal mutagenicity studies were negative
Synergistic Effects: No information available

Section 12: Ecological Information

Ecological studies have not been conducted for this product. The following information is available for components of this product.

Ecotoxicity: 1-Bromopropane – 96 Hr LC50 Fathead minnow: 67.3 mg/L (flow-through)
Persistence / Degradability: No information available
Bioaccumulation / Accumulation: No information available
Mobility in Environment: No information available

Section 13: Disposal Considerations

Waste Classification: The dispensed liquid product is not a RCRA hazardous waste. (See 40 CFR Part 261.20 – 261.33)
Empty aerosol containers may be recycled.

All disposal activities must comply with federal, state, provincial and local regulations. Local regulations may be more stringent than state, provincial or national requirements.

Section 14: Transport Information

US DOT (ground): UN1950, Aerosols, nonflammable, 2.2, Limited Quantity**

ICAO/IATA (air): UN1950, Aerosols, nonflammable, 2.2, Limited Quantity

IMO/IMDG (water): UN1950, Aerosols, 2.2, Limited Quantity

Special Provisions: **This product can be classified and labeled as 'Consumer Commodity, ORM-D' for domestic ground shipping until January 1, 2014.
If shipping as limited quantity by ground, note that shipping papers are not required.

Section 15: Regulatory Information

U.S. Federal Regulations:

Toxic Substances Control Act (TSCA):

All ingredients are either listed on the TSCA inventory or are exempt.

Comprehensive Environmental Response, Compensation and Liability Act (CERCLA):

Reportable Quantities (RQ's) exist for the following ingredients: 1,2-Butylene oxide (100 lbs)

Spills or releases resulting in the loss of any ingredient at or above its RQ require immediate notification to the National Response Center (800-424-8802) and to your Local Emergency Planning Committee.

Superfund Amendments Reauthorization Act (SARA) Title III:

Section 302 Extremely Hazardous Substances (EHS): None

Section 311/312 Hazard Categories:	Fire Hazard	No
	Reactive Hazard	No
	Release of Pressure	Yes
	Acute Health Hazard	Yes
	Chronic Health Hazard	Yes

Section 313 Toxic Chemicals: This product contains the following substances subject to the reporting requirements of Section 313 of Title III of the Superfund Amendments and Reauthorization Act of

1986 and 40 CFR Part 372:
1,2-Butylene oxide (< 1%), t-Butanol (< 3%)

Clean Air Act:

Section 112 Hazardous Air Pollutants (HAPs): 1,2-Butylene oxide

Occupational Safety and Health Administration:

This product is regulated by the Hazard Communications Standard.

U.S. State Regulations:

Consumer Products VOC Regulations: In states with Consumer Products VOC regulations, this product is Not for Retail Sale. It is for use in the manufacturing process only.

State Right to Know:

New Jersey: 75-05-8, 124-38-9, 75-65-0, 106-88-7
Pennsylvania: 75-05-8, 124-38-9, 75-65-0, 106-88-7, 106-94-5
Massachusetts: 75-05-8, 124-38-9, 75-65-0, 106-88-7, 106-94-5
Rhode Island : 75-05-8, 124-38-9, 75-65-0, 106-88-7

Canadian Regulations:

Controlled Products Regulations:

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

WHMIS Hazard Class: A, D2A, D2B

Canadian DSL Inventory: All ingredients are either listed on the DSL Inventory or are exempt.

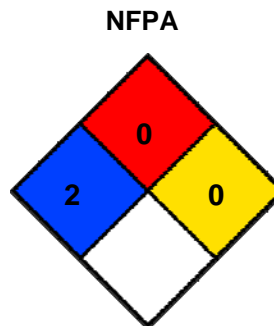
European Union Regulations:

RoHS Compliance: This product is compliant with Directive 2002/95/EC of the European Parliament and of the Council of 27 January 2003. This product does not contain any of the restricted substances as listed in Article 4(1) of the RoHS Directive.

Additional Regulatory Information: This product is not labeled for use in California.
This product contains less than 0.05% isopropyl bromide.

Section 16: Other Information

HMIS® (II)	
Health:	2
Flammability:	0
Reactivity:	0
PPE:	B



Ratings range from 0 (no hazard) to 4 (severe hazard)

Prepared By: Michelle Rudnick
CRC #: 435 / 435A
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Changes since last revision: Section 14: Transport Information
Section 15: Consumer Products VOC Regulations

The information contained in this document applies to this specific material as supplied. It may not be valid for this material if it is used in combination with any other materials. This information is accurate to the best of CRC Industries' knowledge or obtained from sources believed by CRC to be accurate. Before using any product, read all warnings and directions on the label. For further clarification of any information contained on this MSDS consult your supervisor, a health & safety professional, or CRC Industries.

ACGIH: American Conference of Governmental Industrial Hygienists	NA: Not Applicable
CAS: Chemical Abstract Service	ND: Not Determined
CFR: Code of Federal Regulations	NIOSH: National Institute of Occupational Safety & Health
DOT: Department of Transportation	NFPA: National Fire Protection Association
DSL: Domestic Substance List	NTP: National Toxicology Program
g/L: grams per Liter	OSHA: Occupational Safety and Health Administration
HMIS: Hazardous Materials Identification System	PMCC: Pensky-Martens Closed Cup
IARC: International Agency for Research on Cancer	PPE: Personal Protection Equipment
IATA: International Air Transport Association	ppm: Parts per Million
ICAO: International Civil Aviation Organization	RoHS: Restriction of Hazardous Substances
IMDG: International Maritime Dangerous Goods	STEL: Short Term Exposure Limit
IMO: International Maritime Organization	TCC: Tag Closed Cup
lbs./gal: pounds per gallon	TWA: Time Weighted Average
LC: Lethal Concentration	WHMIS: Workplace Hazardous Materials Information System
LD: Lethal Dose	