

MATERIAL SAFETY DATA SHEET

REVISION DATE: 05-23-2012

SUPERSEDES: None

SECTION 1: CHEMICAL PRODUCT AND COMPANY IDENTIFICATION**COMPANY INFORMATION**

H.B. Fuller Company
1200 Willow Lake Boulevard
Vadnais Heights, MN 55110
Phone: 888-423-8553

Medical Emergency Phone Number (24 Hours): 1-888-853-1758
Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

PRODUCT INFORMATION

PRODUCT NUMBER: PLUS HAFTVERMITTLER
PRODUCT DESCRIPTION: Solvent based adhesive
PRODUCT IDENTIFIER: 817535PM

SECTION 2: HAZARDS IDENTIFICATION**EMERGENCY OVERVIEW**

PHYSICAL STATE: Liquid
COLOR: Black
ODOR: Solvent

Highly flammable
Severe eye irritant.
Causes skin irritation.
Moderate respiratory tract irritant.
Harmful if swallowed.

POTENTIAL HEALTH EFFECTS BY ROUTE OF ENTRY

EYE: Can cause severe irritation. Eye contact may result in corneal injury. Symptoms may include discomfort or pain, excessive blinking and tear production, with marked redness and swelling of the conjunctiva. Temporary vision impairment (cloudy or blurred vision) is possible.

SKIN: Can cause moderate skin irritation, defatting, and dermatitis. Not likely to cause permanent damage. Component(s) may be absorbed through intact skin, but it is unlikely that harmful effects will occur unless contact is prolonged, repeated, and extensive.

INHALATION: Can cause moderate respiratory irritation.

Inhalation of high concentrations may result in central nervous system (CNS) effects such as dizziness, weakness, fatigue, nausea, headache, and lack of coordination. Inhalation of vapors may cause loss of feeling and weakness in the hands and feet and loss of manual dexterity.

This product contains one or more materials that may be hazardous when present as an airborne dust. During normal handling of the product, the material is encapsulated within the product and will not present an exposure risk. Once the product has reached its final state and is abraded or disturbed, dusting and exposure may occur.

INGESTION: Ingestion is not an anticipated route of exposure. Harmful if swallowed. Severely irritating to mouth, throat, and stomach.

LONG-TERM (CHRONIC) HEALTH EFFECTS

REPRODUCTIVE: Contains a substance that is a possible reproductive hazard based on animal studies.
TARGET ORGAN(S): Kidneys Liver Central nervous system Lungs Peripheral nervous system
Reproductive system

REGULATED CARCINOGEN STATUS:

Unless noted below, this product does not contain regulated levels of NTP, IARC, ACGIH, or OSHA listed carcinogens.

MATERIAL SAFETY DATA SHEET

Methyl isobutyl ketone

Carbon black

EXISTING HEALTH CONDITIONS AFFECTED BY EXPOSURE: Liver disease; Kidney disease; Lung disease

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	CAS #	PERCENT
Methyl isobutyl ketone	108-10-1	50 - 70
Cyclohexane	110-82-7	10 - 30
Solvent naphtha (petroleum),	92062-15-2	10 - 30
Aliphatic petroleum distillate	68410-97-9	10 - 30
Aliphatic petroleum distillate	64742-49-0	10 - 30
Ethyl acetate	141-78-6	5 - 10
Methylpentane, 2-	107-83-5	1 - 5
Isoheptane	31394-54-4	1 - 5
Carbon black	1333-86-4	1 - 5
Silica, amorphous, gel and precipitated	112926-00-8	1 - 5
Hexane, n	110-54-3	1 - 5
Heptane	142-82-5	1 - 5
Toluene	108-88-3	0.1 - 1

Unlisted ingredients are not 'hazardous' per the Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200) and/or are not found on the Canadian Workplace Hazardous Materials Information System ingredient disclosure list. See Section 8 for exposure limit guidelines.

SECTION 4: FIRST AID MEASURES

IF IN EYES: Immediately flush eyes with plenty of water for at least 20 minutes retracting eyelids often. Tilt the head to prevent chemical from transferring to the uncontaminated eye. Get immediate medical attention and monitor the eye daily as advised by your physician.

IF ON SKIN: Wash with soap and water. Remove contaminated clothing and launder. Get medical attention if irritation develops or persists.

IF VAPORS INHALED: Remove to fresh air. Restore breathing, if necessary. Call a physician if symptoms persist.

IF SWALLOWED: Severely irritating. Do not induce vomiting. Seek medical attention immediately. Drink 2 glasses of water or milk to dilute. Do not give anything by mouth to an unconscious person. Induced vomiting may lead to aspiration of the material into the lungs potentially causing chemical pneumonitis that may be fatal.

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT:	7C; 45F
AUTOIGNITION TEMPERATURE:	Not established
LOWER EXPLOSIVE LIMIT (% in air):	Not established
UPPER EXPLOSIVE LIMIT (% in air):	Not established
EXTINGUISHING MEDIA:	Use water spray, foam, dry chemical or carbon dioxide.

MATERIAL SAFETY DATA SHEET

UNUSUAL FIRE AND EXPLOSION HAZARDS: Vapors are heavier than air and can travel to a source of ignition and flash back.

SPECIAL FIRE FIGHTING INSTRUCTIONS: Persons exposed to products of combustion should wear self-contained breathing apparatus and full protective equipment.

HAZARDOUS COMBUSTION PRODUCTS: Carbon dioxide, Carbon monoxide Chlorine containing gases

SECTION 6: ACCIDENTAL RELEASE MEASURES

SPECIAL PROTECTION: Exposure to the spilled material may be irritating or harmful. Follow personal protective equipment recommendations found in Section 8 of this MSDS. Additional precautions may be necessary based on special circumstances created by the spill including; the material spilled, the quantity of the spill, the area in which the spill occurred. Evaporation of volatile substances can lead to the displacement of air creating an environment that can cause asphyxiation.

CLEAN-UP: Dike if necessary, contain spill with inert absorbent and transfer to containers for disposal. Keep spilled product out of sewers, watersheds, or water systems.
Shut off ignition sources; including electrical equipment and flames. Do not allow smoking in the area.

Transport Emergency Phone Number (CHEMTREC): 1-800-424-9300

SECTION 7: HANDLING AND STORAGE

Handling: Harmful or irritating material. Avoid contacting and avoid breathing the material. Use only in a well ventilated area.
Keep away from heat, sparks and flame.
Wash thoroughly after handling.
Keep container closed.
Emptied container retains vapor and product residue.
Observe all labeled precautions until container is cleaned.
Drums of this material should be grounded when pouring.
DO NOT CUT OR WELD ON OR NEAR THIS CONTAINER.

Storage: Store in a cool, dry, ventilated location. Keep away from heat, sparks, flame and other sources of ignition. Keep container closed.

Consult the Technical Data Sheet for specific storage instructions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

EYE PROTECTION: Wear safety glasses with side shields when handling this product.
Wear additional eye protection such as chemical splash goggles and/or face shield when the possibility exists for eye contact with splashing or spraying liquid, or airborne material. Have an eye wash station available.

SKIN PROTECTION: Avoid skin contact by wearing chemically resistant gloves and long sleeved shirt. An apron may be appropriate if splashing can occur.
Skin absorption may potentially contribute to the overall exposure to this material. Appropriate measures should be taken to prevent absorption so that the TLV is not invalidated.

GLOVES: Nitrile

RESPIRATORY PROTECTION: Respiratory protection may be required to avoid overexposure when handling this product. Use a respirator if general room ventilation is not available or sufficient to eliminate symptoms. NIOSH approved air purifying respirator with organic vapor cartridge.

MATERIAL SAFETY DATA SHEET

Respirators should be selected by and used following requirements found in OSHA's respirator standard (29 CFR 1910.134).

VENTILATION:

Use local exhaust ventilation or other engineering controls to minimize exposures.

EXPOSURE LIMITS:

Chemical Name	ACGIH EXPOSURE LIMITS	OSHA PEL
Methyl isobutyl ketone	20 ppm TWA 75 ppm STEL	100 ppm TWA; 410 mg/m ³ TWA
Cyclohexane	100 ppm TWA	300 ppm TWA; 1050 mg/m ³ TWA
Solvent naphtha (petroleum),	Not established	Not established
Aliphatic petroleum distillate	Not established	Not established
Aliphatic petroleum distillate	Not established	Not established
Ethyl acetate	400 ppm TWA	400 ppm TWA; 1400 mg/m ³ TWA
Methylpentane, 2-	Not established	Not established
Isoheptane	Not established	Not established
Carbon black	3 mg/m ³ TWA (inhalable fraction)	3.5 mg/m ³ TWA
Silica, amorphous, gel and precipitated	Not established	20 mppcf TWA; ((80))/(% SiO ₂) mg/m ³ TWA)
Hexane, n	50 ppm TWA Skin absorption may potentially contribute to the overall exposure to this material.	500 ppm TWA; 1800 mg/m ³ TWA
Heptane	400 ppm TWA (listed under Heptane, all isomers) 500 ppm STEL (listed under Heptane, all isomers)	500 ppm TWA; 2000 mg/m ³ TWA
Toluene	20 ppm TWA	200 ppm TWA 300 ppm Ceiling

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL STATE:	Liquid
COLOR:	Black
ODOR:	Solvent
ODOR THRESHOLD:	Not established
SPECIFIC GRAVITY:	0.930
pH:	Not established
FLASH POINT:	7C; 45F
BOILING POINT (deg. C):	Not established
FREEZING/MELTING POINT (deg. C):	Not established
VAPOR PRESSURE (mm Hg):	Not established
VAPOR DENSITY:	Not established
EVAPORATION RATE:	Not established
OCTANOL/WATER COEFFICIENT:	Not established
VOC, weight percent	Not determined

MATERIAL SAFETY DATA SHEET**SECTION 10: STABILITY AND REACTIVITY**

STABILITY:	Stable under normal conditions.
CHEMICAL INCOMPATIBILITY:	Strong oxidizing agents
HAZARDOUS POLYMERIZATION:	Will not occur.
HAZARDOUS DECOMPOSITION PRODUCTS:	Carbon monoxide, carbon dioxide Chlorine containing gases

SECTION 11: TOXICOLOGICAL INFORMATION

COMPONENT	LD50/LC50
Methyl isobutyl ketone	Oral LD50 Rat = 2,080 mg/kg Dermal LD50 Rabbit > 20 ml/kg
Cyclohexane	Oral LD50 Rat = 12,705 mg/kg
Solvent naphtha (petroleum),	Not established
Aliphatic petroleum distillate	Not established
Aliphatic petroleum distillate	Not established
Ethyl acetate	Oral LD50 Rat = 5,620 mg/kg Inhalation LC50 Rat = 200,000 mg/cu m (no duration specified) Dermal LD50 Rabbit > 20 ml/kg
Methylpentane, 2-	Not established
Isoheptane	Oral LD50 Mouse = 5,000 mg/kg Inhalation LC50 Rat = 103,000 mg/cu m/4H Dermal LD50 Rabbit = 3,000 mg/kg
Carbon black	Oral LD50 Rat > 15,400 mg/kg Dermal LD50 Rabbit > 3 g/kg
Silica, amorphous, gel and precipitated	Not established
Hexane, n	Oral LD50 Rat = 28,710 mg/kg Inhalation LC50 Rat = 48,000 ppm/4H
Heptane	Oral LD50 Mouse = 5,000 mg/kg Inhalation LC50 Rat = 103,000 mg/cu m/4H Dermal LD50 Rabbit = 3,000 mg/kg
Toluene	Oral LD50 Rat = 636 mg/kg Inhalation LC50 Rat = 49,000 mg/cu m/4H Dermal LD50 Rabbit = 14 ml/kg

TOXICOLOGY SUMMARY: No additional health information available.

SECTION 12: ECOLOGICAL INFORMATION

OVERVIEW: No ecological information available

SECTION 13: DISPOSAL CONSIDERATIONS

This product meets the definition of hazardous waste under the U.S. EPA Hazardous Waste Regulations 40 CFR 261. It is ignitable waste class D001. Disposal via incineration is recommended. Consult your state, local, or provincial authorities for more restrictive requirements.

LAND DISPOSAL RESTRICTIONS: Methyl isobutyl ketone Ethyl acetate Toluene

SECTION 14: TRANSPORTATION INFORMATION

Consult Bill of Lading for transportation information.

IATA: UN1133, ADHESIVES, 3, III (FLASH POINT LESS THAN 23°C, VISCOSITY CONFORMS TO IATA 3.3.3.1.1). FOR U.S. SHIPMENTS IN CONTAINERS 1713 KILOGRAMS (3778 POUNDS) OR MORE: UN1133, ADHESIVES, 3, III, RQ (TOLUENE)

MATERIAL SAFETY DATA SHEET**SECTION 15: REGULATORY INFORMATION****INVENTORY STATUS**

- U.S. EPA TSCA: This product is in compliance with the Toxic Substances Control Act's Inventory requirements.
- CANADIAN CEPA DSL: The components of this product are included on the DSL or are exempt from DSL requirements.
- EUROPEAN EINECS: As a result of the introduction of REACH into Europe, this product cannot be imported into Europe unless the REACH requirements are met.
- PHILIPPINES: This product is in compliance with the Philippine Inventory of Chemicals and Chemical Substances requirements.

If you need more information about the inventory status of this product call 651-236-5858.

This product may contain chemical substances that are regulated for export by various government agencies (such as the Environmental Protection Agency, the Bureau of Industry and Security, or the Drug Enforcement Administration, among others). Before exporting this product from the USA or Canada, we recommend you contact us at 651-236-5858 (USA) or 450-655-1306 x227 (Canada) to request an export review.

FEDERAL REPORTING**EPA SARA Title III Section 313**

Unless listed below, this product does not contain toxic chemical(s) subject to the reporting requirements of section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) and 40 CFR part 372. EPA has advised that when a percentage range is listed the midpoint may be used to fulfill reporting obligations.

Chemical Name	CAS#	%
Methyl isobutyl ketone	108-10-1	50 - 70
Cyclohexane	110-82-7	10 - 30
n-Hexane	110-54-3	1 - 5
Toluene	108-88-3	0.1 - 1

WHMIS STATUS: Unless listed below, this product is not controlled under the Canadian Workplace Hazardous Materials Information System.

B2

D2A D2B

STATE REPORTING

Proposition 65, The Safe Drinking Water and Toxic Enforcement Act of 1986:

Unless listed below, this product does not contain known levels of any chemical known to the State of California to cause cancer or reproductive harm.

Chemical Name/List		CAS	Percent
2-Pentanone, 4-methyl-	(Carcinogen)	108-10-1	50 - 70
Carbon black	(Carcinogen)	1333-86-4	1 - 5
Toluene	(Developmental toxin)	108-88-3	0.1 - 1
Benzene, methyl-	(Female reproductive toxin)	108-88-3	0.1 - 1

SECTION 16: ADDITIONAL INFORMATION

This Material Safety Data Sheet is prepared to comply with the United States Occupational Safety and Health Administration (OSHA) Hazard Communication Standard (29 CFR 1910.1200) and the Canadian Workplace Hazardous Materials Information System (WHMIS).

HMIS RATING: HEALTH -- 2 FLAMMABILITY -- 3 REACTIVITY -- 0

See SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION for personal protective equipment recommendations.

Prepared by: The Global Regulatory Department

Phone: 651-236-5842

MATERIAL SAFETY DATA SHEET

The information and recommendations set forth herein are believed to be accurate. Because some of the information is derived from information provided to the H.B. Fuller Company from its suppliers, and because the H.B. Fuller Company has no control over the conditions of handling and use, the H.B. Fuller Company makes no warranty, expressed or implied, regarding the accuracy of the data or the results to be obtained from the use thereof. The information is supplied solely for your information and consideration, and the H.B. Fuller Company assumes no responsibility for use or reliance thereon. It is the responsibility of the user of H.B. Fuller Company products to comply with all applicable federal, state and local laws and regulations.