

MATERIAL SAFETY 3M
 DATA SHEET 3M Center
 St. Paul, Minnesota
 55144-1000
 1-800-364-3577 or (651) 737-6501 (24 hours)

Copyright, 2001, Minnesota Mining and Manufacturing Company.
 All rights reserved. Copying and/or downloading of this
 information for the purpose of properly utilizing 3M products
 is allowed provided that:

- 1) the information is copied in full with no changes unless
 prior agreement is obtained from 3M, and
- 2) neither the copy nor the original is resold or otherwise
 distributed with the intention of earning a profit thereon.

DIVISION: ENGINEERED ADHESIVES

TRADE NAME:

3M(TM) 5-Way Penetrant

ID NUMBER/U.P.C.:

62-4608-2926-0 00-21200-82358-9 62-4608-4935-9 00-21200-21305-2

62-4608-4936-7 - - - 62-4608-4937-5 00-21200-21305-1

ISSUED: May 24, 2001

SUPERSEDES: March 06, 2001

DOCUMENT: 10-3313-3

1. INGREDIENT	C.A.S. NO.	PERCENT	
MINERAL SPIRITS.....	64742-88-7	35	- 45
ISOBUTANE.....	75-28-5	10	- 20
KEROSENE.....	8008-20-6	10	- 20
PETROLEUM DISTILLATE.....	64742-65-0	10	- 20
PROPANE.....	74-98-6	10	- 20
oleic acid ester - Vendor Trade Secret (V.T.S.) ++.....	TradeSecret	1	- 5

IN CASE OF EMERGENCY: THE NUMBERS AT THE TOP OF THIS PAGE PROVIDE 24
 HOUR RESPONSE FROM ANY PHONE FOR ALL EMERGENCIES WITH THIS PRODUCT.
 The components of this product are in compliance with the chemical
 notification requirements of TSCA. All applicable chemical
 ingredients in this material are listed on the European Inventory of
 Existing Chemical Substances (EINECS), or are exempt polymers whose
 monomers are listed on EINECS.

++ Non-hazardous as defined by Canadian WHMIS criteria.

2. PHYSICAL DATA

BOILING POINT:..... Compressed gas
 VAPOR PRESSURE:..... Compressed gas
 VAPOR DENSITY:..... > 3.00 Air=1
 EVAPORATION RATE:..... > 1.00 Ether=1
 SOLUBILITY IN WATER:..... nil
 SPECIFIC GRAVITY:..... 0.720 Water=1

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

2. PHYSICAL DATA (continued)

PERCENT VOLATILE:..... ca. 83 % by wt
pH:..... N/A
VISCOSITY:..... N/A
MELTING POINT:..... N/D

APPEARANCE AND ODOR:

Liquid in aerosol container, clear, straw colored.

3. FIRE AND EXPLOSION HAZARD DATA

FLASH POINT:..... -50.00 F
FLAMMABLE LIMITS - LEL:..... ca. .7 % by vol
FLAMMABLE LIMITS - UEL:..... ca. 9.5 % by vol
AUTOIGNITION TEMPERATURE:..... N/D

EXTINGUISHING MEDIA:

Water spray, Carbon dioxide, Dry chemical, Foam

SPECIAL FIRE FIGHTING PROCEDURES:

Wear full protective clothing, including helmet, self-contained, positive pressure or pressure demand breathing apparatus, bunker coat and pants, bands around arms, waist and legs, face mask, and protective covering for exposed areas of the head. Water may not effectively extinguish fire; however, it should be used to keep fire-exposed containers and surfaces cool and prevent explosive rupture.

UNUSUAL FIRE AND EXPLOSION HAZARDS:

Closed containers exposed to heat from fire may build pressure and explode. Vapors may travel long distances along the ground or floor to an ignition source and flash back.

NFPA HAZARD CODES: HEALTH: 2 FIRE: 4 REACTIVITY: 1 AEROSOL STORAGE: 3
UNUSUAL REACTION HAZARD: none

4. REACTIVITY DATA

STABILITY: Stable

INCOMPATIBILITY - MATERIALS/CONDITIONS TO AVOID:

Heat.

HAZARDOUS POLYMERIZATION: Hazardous polymerization will not occur.

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

4. REACTIVITY DATA (continued)

HAZARDOUS DECOMPOSITION PRODUCTS:

Carbon Monoxide and Carbon Dioxide, Toxic Vapors, Gases or
Particulates.

5. ENVIRONMENTAL INFORMATION

SPILL RESPONSE:

Refer to other sections of this MSDS for information regarding
physical and health hazards, respiratory protection, ventilation, and
personal protective equipment. Ventilate area. Extinguish all
ignition sources. Cover with absorbent material. Collect using non-
sparking tools. Place in a U.S. DOT-approved container.

RECOMMENDED DISPOSAL:

Incinerate in a permitted hazardous waste incinerator in the presence
of a combustible material. Facility must be capable of handling
aerosol cans. Dispose of empty cans in a sanitary landfill. Dispose
of completely absorbed waste product in a facility permitted to
accept chemical wastes.

RECYCLE EMPTY AEROSOL CONTAINERS WHERE AVAILABLE.

ENVIRONMENTAL DATA:

Not determined.

REGULATORY INFORMATION:

Volatile Organic Compounds: ca. 83 %.
Volatile Organic Compounds: 586 gms/liter calculated per SCAQMD rule
443.1.
VOC Less H2O & Exempt Solvents: 586 gms/liter calculated per SCAQMD rule
443.1.
Hazardous Air Pollutants: 0 % by wt calculated.

Since regulations vary, consult applicable regulations or authorities
before disposal. U.S. EPA Hazardous Waste Number = D001 (Ignitable)

EPCRA HAZARD CLASS:

FIRE HAZARD: Yes PRESSURE: Yes REACTIVITY: No ACUTE: Yes CHRONIC: Yes

6. SUGGESTED FIRST AID

EYE CONTACT:

Immediately flush eyes with large amounts of water. Get immediate
medical attention.

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

6. SUGGESTED FIRST AID (continued)

SKIN CONTACT:

Flush skin with large amounts of water. If irritation persists, get medical attention.

INHALATION:

Remove person to fresh air. If not breathing, give artificial respiration. If breathing is difficult, get immediate medical attention.

IF SWALLOWED:

If swallowed, call a physician immediately. Only induce vomiting at the instruction of a physician. Never give anything by mouth to an unconscious person.

7. PRECAUTIONARY INFORMATION

EYE PROTECTION:

Avoid eye contact with vapor, spray, or mist. Wear safety glasses with side shields.

SKIN PROTECTION:

Avoid prolonged or repeated skin contact.

RECOMMENDED VENTILATION:

Do not use in a confined area or areas with little or no air movement. If exhaust ventilation is not adequate, use appropriate respiratory protection. Provide ventilation adequate to control vapor concentrations below recommended exposure limits and/or control spray or mist.

RESPIRATORY PROTECTION:

Avoid breathing of vapors, mists or spray. Select one of the following NIOSH approved respirators based on airborne concentration of contaminants and in accordance with OSHA regulations: Half-mask organic vapor respirator with dust/mist prefilter.

PREVENTION OF ACCIDENTAL INGESTION:

Do not ingest.

RECOMMENDED STORAGE:

Store at temperatures below 120 degrees F (49 degrees C). Store out of direct sunlight. Keep out of the reach of children.

FIRE AND EXPLOSION AVOIDANCE:

Aerosol container contains flammable gas under pressure. Keep away from heat, sparks, open flame, and other sources of ignition. Extremely flammable liquid and vapor. Do not pierce or burn container, even after use. No smoking while handling this material.

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

7. PRECAUTIONARY INFORMATION (continued)

Vapors may ignite explosively. Avoid static discharge.

EXPOSURE LIMITS

INGREDIENT	VALUE	UNIT	TYPE	AUTH	SKIN*
MINERAL SPIRITS.....	100	PPM	TWA	CMRG	
ISOBUTANE.....	NONE	NONE	NONE	NONE	
KEROSENE.....	500	PPM	TWA	CMRG	
PETROLEUM DISTILLATE.....	5	MG/M3	TWA	CMRG	
PETROLEUM DISTILLATE.....	10	MG/M3	STEL	CMRG	
PROPANE.....	1000	PPM	TWA	OSHA	
PROPANE.....	2500	PPM	TWA	ACGIH	
oleic acid ester - Vendor Trade Secret (V.T.S.) ++.....	NONE	NONE	NONE	NONE	

* SKIN NOTATION: Listed substances indicated with 'Y' under SKIN refer to the potential contribution to the overall exposure by the cutaneous route including mucous membrane and eye, either by airborne or, more particularly, by direct contact with the substance. Vehicles can alter skin absorption.

SOURCE OF EXPOSURE LIMIT DATA:

- ACGIH: American Conference of Governmental Industrial Hygienists
- CMRG: Chemical Manufacturer Recommended Exposure Guidelines
- OSHA: Occupational Safety and Health Administration
- NONE: None Established

8. HEALTH HAZARD DATA

EYE CONTACT:

Moderate Eye Irritation: signs/symptoms can include redness, swelling, pain, tearing, and hazy vision.

SKIN CONTACT:

Mild Skin Irritation (after prolonged or repeated contact): signs/symptoms can include redness, swelling, and itching.

May be absorbed through the skin and produce effects similiar to those caused by inhalation and/or ingestion.

INHALATION:

Intentional concentration and inhalation may be harmful or fatal.

Central Nervous System Depression: signs/symptoms can include headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

8. HEALTH HAZARD DATA (continued)

Irritation (upper respiratory): signs/symptoms can include soreness of the nose and throat, coughing and sneezing.

WHILE THE FOLLOWING EFFECTS ARE ASSOCIATED WITH ONE OR MORE OF THE INDIVIDUAL INGREDIENTS IN THIS PRODUCT AND ARE REQUIRED TO BE INCLUDED ON THE MSDS BY THE U.S. OSHA HAZARD COMMUNICATION STANDARD, THEY ARE NOT EXPECTED EFFECTS DURING FORESEEABLE USE OF THIS PRODUCT.

Kidney Effects: signs/symptoms can include reduced urine volume, blood in urine and back pain.

Lung Damage: signs/symptoms can include coughing, difficulty breathing, wheezing, tightness in chest, congestion, and coughing up of blood.

IF SWALLOWED:

Ingestion is not a likely route of exposure to this product.

WHILE THE FOLLOWING EFFECTS ARE ASSOCIATED WITH ONE OR MORE OF THE INDIVIDUAL INGREDIENTS IN THIS PRODUCT AND ARE REQUIRED TO BE INCLUDED ON THE MSDS BY THE U.S. OSHA HAZARD COMMUNICATION STANDARD, THEY ARE NOT EXPECTED EFFECTS DURING FORESEEABLE USE OF THIS PRODUCT.

Kidney Effects: signs/symptoms can include reduced urine volume, blood in urine and back pain.

Ingestion may cause:

Irritation of Gastrointestinal Tissues: signs/symptoms can include pain, vomiting, abdominal tenderness, nausea, blood in vomitus, and blood in feces.

Aspiration Pneumonitis: signs/symptoms can include coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

SECTION CHANGE DATES

HEADING	SECTION CHANGED SINCE	ISSUE
	March 06, 2001	

Abbreviations: N/D - Not Determined N/A - Not Applicable CA - Approximately

The information in this Material Safety Data Sheet (MSDS) is believed to be correct as of the date issued. 3M MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the 3M product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of a 3M product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the 3M product to determine whether it is fit for a particular purpose and suitable for user's method of use or application.

3M provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, 3M makes no representations as to its completeness or accuracy. In addition, information obtained from a database may not be as current as the information in the MSDS available directly from 3M.