MATERIAL SAFETY DATA SHEET

Oatey®
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OATEY REGULAR CLEAR PVC SOLVENT CEMENT

Latest Revision Date...05/28/97 Date of Issue.....08/13/97

Section 1 IDENTITY OF MATERIAL

TRADE NAME.....OATEY REGULAR CLEAR PVC SOLVENT CEMENT
PRODUCT NUMBERS... 31012, 31013, 31014, 31015, 31016, 30881
FORMULA..... PVC Resin in Solvent Solution
SYNONYMS..... PVC Plastic Pipe Cement

SECTION 2 HAZARDOUS INGREDIENTS

INGREDIENTS	%	CAS NUMBER	SEC 313
PVC Resin (Non-Hazardous)	10-14%	9002-86-2	No
Methyl Ethyl Ketone	40-55%	78-93-3	Yes
Tetrahydrofuran (See SECTION 6)	25-40%	109-99-9	No
Cyclohexanone	5-10%	108-94-1	No
Acetone	0- 5%	67-64-1	No

SECTION 3 KNOWN HAZARDS UNDER 29 CFR 1910.1200

HAZARDS	YES	NO	HAZARDS	YES	NO
Combustible Liquid		x	Skin Hazard	x	
Flammable Liquid	x		Eye Hazard	x	
Pyrophoric Material		x	Toxic Agent	x	
Explosive Material		x	Highly Toxic Agent		x
Unstable Material		x	Sensitizer		x
Water Reactive Material		x	Kidney Toxin	x	
Oxidizer		x	Reproductive Toxin	x	
Organic Peroxide		x	Blood Toxin		x
Corrosive Material		x	Nervous System Toxin	x	
Compressed Gas		x	Lung Toxin	x	
Irritant	x		Liver Toxin	x	
Carcinogen NTP/IARC/OSHA (see SECTION 6)		x			

SECTION 4 REGULATION

CHEMICAL	TLV (TWA)	PEL (Transitional Limits)	STEL	Hazard Action Level
Methyl Ethyl Ketone	200 ppm, 590 mg/cu m	200 ppm, 590 mg/cu m	300 ppm, 885 mg/cu m	N/A
Tetrahydrofuran	200 ppm, 590 mg/cu m	200 ppm, 590 mg/cu m	250 ppm, 735 mg/cu m	N/A
Cyclohexanone	25 ppm, 100 mg/cu m (skin)	50 ppm, 200 mg/cu m	100 ppm, 400 mg/cu m	N/A
Acetone	750 ppm,1800 mg/cu m	1000 ppm,2400 mg/cu m	1000 ppm,2400 mg/cu m	N/A

SECTION 5 REGULATED IDENTIFICATION

DOT PROPER SHIPPING NAME..... CONSUMER COMMODITY ORM-D; For gallons: Adhesive, (Contains Tetrahydrofuran, Methyl Ethyl Ketone) 3, UN1133, PG II, Cement-002
DOT HAZARD CLASS ..... Flammable Liquid
SHIPPING ID NUMBER..... NA 1133 (Gallons Only)
EPA HAZARDOUS WASTE ID NUMBER... D-001
EPA HAZARD WASTE CLASS..... Ignitable Waste/Toxic Waste

SECTION 6 EFFECTS OF EXPOSURE

ENTRY ROUTE..... INHALE/YES INGEST/YES SKIN/YES EYE/YES
INHALATION..... May cause irritation of mucous membranes, nose & throat, headache, dizziness, nausea, numbness of the extremities and narcosis in high concentrations. Has caused CNS depression & liver damage in animals, & high concentrations have caused retardation of fetal development in rats.
TETRAHYDROFURAN WARNING ..... The National Toxicology Program has reported that exposure of mice and rats to Tetrahydrofuran (THF) vapor levels up to 1800 ppm 6 hr/day, 5 days/week for their lifetime caused an increased incidence of kidney tumors in male rats and liver tumors in female mice. The significance of these findings for human health are unclear at this time, and may be related to "species specific" effects. Elevated incidences of tumors in humans have not been reported for THF. THF is not listed as a carcinogen byNTP, IARC, or OSHA. One THF vendor has recommended a reduction in the "acceptable exposure limit" from 200 ppm to 25 ppm, 8 and 12 hour time weighted average.
SKIN..... Chronic contact may lead to irritation & dermatitis. Chronic exposure to vapors of high concentration may cause dermatitis. May possibly be absorbed through the skin.
EYE..... Vapors or direct contact may cause irritation.
INGESTION..... May be aspirated into the lungs or cause systemic effects described under inhalation.
TARGET ORGANS... Eye, Skin, Kidney, Lung, Liver, Central Nervous System

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SECTION 7 EMERGENCY AND FIRST AID PROCEDURES - 303/623-5716 COLLECT

SKIN..... If irritation arises, wash thoroughly with soap and water. Seek medical attention if irritation persists.
EYES..... If fumes cause irritation, move to fresh air and irrigate eyes with water for 15 minutes. If irritation persists, seek medical attention.
INHALATION... Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Keep victim quiet and warm. Call a poison control center or physician immediately.
INGESTION.... Drink water and call a poison control center or physician immediately. Avoid alcoholic beverages. Never give anything by mouth to an unconscious person.

SECTION 8 PHYSICAL AND CHEMICAL PROPERTIES

NFPA HAZARD SIGNAL..... HEALTH 2 STABILITY 1 FLAMMABILITY 3 SPECIAL NONE
BOILING POINT..... 151 Degrees F / 66 C
MELTING POINT..... N/A
VAPOR PRESSURE..... 145 mmHg @ 20 Degrees C
VAPOR DENSITY (AIR = 1)... 2.5
VOLATILE COMPONENTS..... 88 +/- 2%
SOLUBILITY IN WATER..... Negligible
PH..... N/A
SPECIFIC GRAVITY..... 0.90 +/- 0.015
EVAPORATION RATE..... (BUAC = 1) = 5.5 - 8.0
APPEARANCE..... Clear Liquid
ODOR..... Ether-Like
WILL DISSOLVE IN..... Tetrahydrofuran
MATERIAL IS..... Liquid

SECTION 9 FIRE AND EXPLOSION HAZARD DATA

FLAMMABILITY..... LEL =1.8 UEL= 11.8 % Volume
FLASHPOINT AND METHOD USED..... 0 - 5 Degrees F. / PMCC
STABILITY..... Stable CONDITIONS TO AVOID: Heat, sparks and open flame. HAZARDOUS DECOMP. PDTS.: Carbon monoxide/ carbon dioxide/hydrogen chloride/smoke.
HAZARDOUS POLYMERIZATION..... Will Not Occur. CONDITIONS TO AVOID: None
INCOMPATIBILITY/MAT. TO AVOID..... Acids, oxidizing materials, alkalis, chlorinated inorganics (potassium, calcium and sodium hypochlorite), copper or copper alloys.
SPECIAL FIRE FIGHTING PROCEDURE... FOR SMALL FIRES: Use dry chemical, CO2, water or foam extinguisher. FOR LARGE FIRES: Evacuate area and call Fire Department immediately.

SECTION 10 SPILL AND DISPOSAL INFORMATION

SPILL OR LEAK PROCEDURES... Ventilate area, stop leak if it can be done without risk. Take up with sand, earth, or other non-combustible absorbing material.
WASTE DISPOSAL..... Dispose of according to local, state, and Federal regulations.

SECTION 11 SAFE USAGE DATA

PROTECTIVE EQUIPMENT TYPES... EYES: Safety glasses with side shields. RESPIRATORY: NIOSH-approved cannister respirator in absence of adequate ventilation. GLOVES: Rubber gloves, OTHER: Eye wash and safety shower should be available.
VENTILATION..... GENERAL MECHANICAL: Exhaust ventilation capable of maintaining emissions at the point of use below PEL. LOCAL EXHAUST: Open doors & windows. If used in enclosed area, use exhaust fans.
PRECAUTIONS..... HANDLING & STORAGE: Keep away from heat, sparks and flames; store in cool, dry area OTHER: Containers, even empties will retain residue and vapors.

SECTION 12 MANUFACTURER OR SUPPLIER DATA

FIRM NAME & MAILING ADDRESS... OATEY CO., 4700 West 160th Street/P.O. Box 35906 Cleveland, Ohio 44135
OATEY PHONE NUMBER..... (216) 267-7100
EMERGENCY PHONE NUMBER:..... For Emergency First Aid call (303) 623-5716 (COLLECT) For chemical transportation emergencies ONLY, call Chemtrec at 1-800-424-9300

SECTION 13 DISCLAIMER

The information herein has been compiled from sources believed to be reliable, up-to-date, and is accurate to the best of our knowledge. However, Oatey cannot give any guarantees regarding information from other sources, and expressly does not make warranties, nor assumes any liability for its use.

OATEY CO.
HEALTH, SAFETY, AND ENVIRONMENTAL BULLETIN
May 22, 1997

TETRAHYDROFURAN

Tetrahydrofuran, also known as THF, is a major component of PVC and CPVC solvent cements and primers. It is used because it is one of the best solvents known for these polymers and generally has low toxicity properties. It has been used in these products since they were first developed over forty years ago.

Recently the National Toxicology Program completed and published a **draft** of a technical report on a cancer study of THF using rats and mice. In this study tumors were found in female mice livers and male rat kidneys when the animals were exposed to very high levels of THF via inhalation throughout their lifetimes. Male mice and female rats did not show any tumors at the same levels. The exposures were up to 1800 ppm which is much higher than the current OSHA Permissible Exposure Limit ("PEL") of 200 ppm.

There are currently valid scientific questions which cast some doubt on whether this result is predictive of human cancer. Oatey, other solvent cement producers, and a THF industry group are funding follow-up research to answer some of these questions and to determine whether the results of this study are relevant to human cancer. As of this date, **none** of the international agencies which maintain lists of cancer-causing agents, including NTP, have classified THF as a cancer-causing agent. Furthermore, there is no data which identifies THF as a human cancer-causing agent even though it has been used by large populations of workers for many years.

The current OSHA Permissible Exposure Limit for THF is 200 ppm. This means that a person can be exposed to an average of 200 ppm of THF over a normal work day without OSHA requiring any special protective actions. OSHA has not changed this standard as a result of the draft NTP study. Under most conditions, a plumber's exposure to THF is well below this level. However, prolonged use of solvent cements in poorly ventilated, enclosed areas can result in higher exposures. Under those conditions we strongly recommend providing adequate ventilation or the use of respirators which are NIOSH approved for organic solvents.

NSF International, which certifies solvent cement products for potable water applications under ANSI/NSF Standard 61, is also currently evaluating the implications of the NTP study relative to the acceptable levels of THF extracted from plastic piping systems joined with solvent cements. Oatey, other solvent cement producers, and the THF industry task force are discussing the results of this evaluation with NSF.

Please refer any questions to the Oatey Technical Service Department.