

MATERIAL SAFETY DATA SHEET

U.S. DEPARTMENT OF LABOR, OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION, HAZARD COMMUNICATION STANDARD, 29 CFR 1910.1200

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Date Reviewed: **March 1, 2006**
Current Date: November 7, 2007

TRADE NAME: **TAP MAGIC ORIGINAL Cutting Fluid**
CHEMICAL NAME & SYNONYMS: Hydrocarbon Mixture
DOT SHIPPING NAME: 1,1,1-Trichloroethane Class 6.1 UN 2831, III
HMIS/NFPA CODE: Health 2; Fire 0; Reactivity 1; Specific - solvent
MANUFACTURING CODE NO.: 8358
COMMODITY CODE NO.: 332-9150

I. HAZARDOUS INGREDIENTS

Component	CAS #	OSHA PEL ppm	ACGIH TLV ppm	Other Limits Recommended	Max.%
1,1,1 Trichloroethane	71-55-6	350	350	STEL-450	90
tert-butyl alcohol	75-65-0	100	100	STEL-150	3
1,2-Butylene Oxide	106-88-7	Not Listed	Not Listed	est. STEL-100	3
Dimethoxymethane	109-87-5	1000	1000	STEL-1250	3
Petroleum Oil, aliphatic	68815-10-1	Not Listed	Not Listed	Not Listed	3
Vegetable Oil, essential	8007-80-5	Not Listed	Not Listed	None	3

II. PHYSICAL DATA

BOILING RANGE, (760 mm, Mercury) : 158-190 degrees F (70-80 C)
SPECIFIC GRAVITY (Water =1), lbs/gal. : (1.35), 11.3 lbs/gal.
VAPOR PRESSURE (mm of Mercury) @ 68 degrees F : 100
VAPOR DENSITY (Air = 1) : 4.55
SOLUBILITY IN WATER, % by weight : 0.07
EVAPORATION RATE (Butyl Acetate = 1) : 0.6 gal./sq.ft./day @ 76.6 F (24.4 C)
% VOLATILE BY VOLUME : Greater than 90%
APPEARANCE : Amber liquid, non-aqueous
ODOR : Aromatic

III. FIRE & EXPLOSION DATA

FLASH POINT, TOC, TCC, PMCC: None
AUTOIGNITION TEMPERATURE: None
EXTINGUISHING MEDIA: Water Fog
SPECIAL FIRE FIGHTING PROCEDURES: Positive pressure, self-contained respiratory equipment
UNUSUAL FIRE AND EXPLOSION HAZARD: Product does not present any fire hazard, however, when concentrated vapors are exposed to open flames or high energy electrical arcs, irritating and toxic gasses (HCL) may be formed. Flammability limits have been established utilizing high energy electrical arcs: LFL 6%; UFL 16.7%.

IV. HEALTH HAZARD INFORMATION

ROUTES OF ENTRY : Exposure may occur via inhalation, skin contact or ingestion.

EFFECTS OF ACUTE OVEREXPOSURE
INHALATION: Minimal anesthetic or narcotic effects may be seen in the range of 500-1000 ppm. Progressively higher levels over 1000 ppm may cause dizziness, drunkenness; concentrations as low as 10,000 ppm can cause unconsciousness and death. In confined or poorly ventilated areas, vapors which readily accumulate can cause unconsciousness and death. These high levels may also cause cardiac arrhythmias (irregular heart beats).
SKIN CONTACT: A single prolonged skin exposure is not likely to result in absorption of harmful amounts. The LD50 for rabbits is about 15,000 mg/kg.
INGESTION: Single dose oral toxicity is low. The LD50 for rats is greater than 10,000 mg/kg. If aspirated (liquid enters lung), may be rapidly absorbed through the lungs and result in injury to other body systems.

EYE: May cause pain and irritation with transient corneal injury.

EFFECTS OF CHRONIC OVEREXPOSURE : **SKIN CONTACT:** Prolonged or repeated exposure may cause defatting of the skin and subsequent rash or irritation.
ALL ROUTES OF ENTRY: Based on available data, repeated exposures are not anticipated to cause any significant adverse effects. Birth defects are unlikely.
Exposures having no adverse effects on the mother should have no effect on the fetus. In animal studies, has been shown not to interfere with reproduction. Results of *in vitro* ("test tube") mutagenicity tests have been negative. Results of mutagenicity tests in animals have been negative.

CARCINOGENICITY : Does not cause cancer in long term animal studies. Not a carcinogen or suspect carcinogen.

EMERGENCY AND FIRST AID PROCEDURES : **EYE:** Flush eyes gently with water for at least 15 minutes. Supportive treatment is recommended by physician.
SKIN: Wash with mild soap and water. Remove wetted clothing until dry.
INHALATION: Remove to fresh air. Individuals showing pronounced anesthetic effects may require artificial respiration and oxygen. Epinephrine and other drugs with similar activity should not be administered.
INGESTION: Do not induce vomiting. Call a physician and/or transport to emergency facility immediately.

NOTES TO PHYSICIAN : **EYE:** May cause Conjunctivitis, stain for evidence of corneal injury.
SKIN: May cause mild irritation, chronic exposure, defatting type of Dermatitis, treat as any contact Dermatitis. Not likely to be absorbed in acutely toxic amounts.
RESPIRATORY: Anesthetic or narcotic effect may occur, administer oxygen if available.
Bronchodilators, expectorants and antitussives may be of help.
ORAL: Low in toxicity. May cause reaction similar to petroleum or petroleum-like solvent. Danger of chemical pneumonia must be weighed against toxicity when considering emptying the stomach. If lavage is performed, suggest endotracheal and/or esophagoscopy control.
SYSTEMIC: May increase myocardial irritability. Avoid Epinephrine or similar acting drugs if at all possible. Consult standard literature. No specific antidote. Treatment based on the sound judgment of the physician and the individual reactions of the patient.

V. REACTIVITY DATA

STABILITY: The product is very stable under most conditions. Prolonged storage in contact with water may cause some decomposition and the formation of hydrochloric acid (when storing @ temperatures in excess of 150 F). Thermal decomposition begins at 325 C (625 F).

INCOMPATIBILITY: Magnesium and aluminum are attacked at elevated temperatures. Polystyrene, cellulose acetate propionate and polycarbonate plastics are dissolved. Softens asphalt, swells natural or Buna rubber.

HAZARDOUS DECOMPOSITION PRODUCTS: When exposed to open flames (welding torches) or high energy arcs, product may decompose yielding hydrogen chloride (HCL) gas.

CONDITIONS CONTRIBUTING TO HAZARDOUS POLYMERIZATION: None

VI. DISPOSAL, SPILL OR LEAK PROCEDURES

AQUATIC TOXICITY : The product has a low biochemical oxygen demand (BOD), does not interfere with biological treatment, and is easily aerated out of water solutions. The odor threshold in water solution is 350 ppm.

SPILL OR LEAK PROCEDURES : Small Spills: Mop up, wipe up or soak up immediately. Remove to out-of-doors.
Large Spills: Evacuate area. Contain liquid; transfer to closed metal (steel) containers. Keep out of water supply. Reportable Quantity: 90 Gallons (1000 lbs.)

WASTE DISPOSAL METHOD : Very small amounts may be evaporated in compliance with local, state and federal regulations including Subtitle C of the Resource Conservation and Recovery Act. Large quantities may be sent to a licensed reclaimer or permitted incinerators. Never dump into sewers, on the ground or into any body of water. "If inert absorbents are employed in spill containment or cleanup, these absorbents must be non-biodegradable materials if destined for landfill disposal. Suitable absorbents include natural minerals (clay), activated charcoal, man-made polymers (HD polyethylene)."

NEUTRALIZATION CHEMICALS : Product may be effectively absorbed with activated charcoal.

VII. SPECIAL PROTECTION INFORMATION

VENTILATION REQUIREMENTS : Normal ventilation with regular use to maintain the TLV below recommended values (350 ppm).

SPECIFIC PERSONAL PROTECTIVE EQUIPMENT : RESPIRATORY: None during normal use. When respiratory protection is required for certain operations, use an approved air purifying respirator. For emergency conditions where the exposure guideline may be greatly exceeded, use an approved positive pressure self-contained breathing apparatus.
EYES: Single safety glasses to cup-type goggles (precautionary measure due to machining operations).
GLOVES: Synthetic rubber gloves, aprons and overshoes may be necessary to prevent excessive skin contact when dealing with large spills (many gallons).
OTHER CLOTHING & EQUIPMENT: None required.

VIII. SPECIAL PRECAUTIONS

Use with adequate ventilation. Avoid prolonged or repeated breathing of vapors. Concentrated vapors are heavier than air and will collect in low areas such as pits, degreasers, storage tanks and other confined areas. Large amounts can displace oxygen in confined areas. Do not enter these areas where vapors are suspected unless special breathing apparatus is used and an observer is present for assistance. Avoid prolonged or repeated contact with skin. DO NOT TAKE INTERNALLY. At elevated temperatures, aluminum may be corroded and therefore, aluminum is not recommended for containers or handling equipment. Ideally, a cool, dry, well ventilated storage area should be selected, however, a properly sealed container may be stored under higher ambient temperatures (150 F) and humid conditions without concern. Shelf life is indefinite at ambient temperatures.

IX. ADDITIONAL REGULATORY CONCERNS

1,1,1-trichloroethane has been included by the EPA in a list of chemical compounds designated as hazardous waste materials. This organic compound is highly volatile and readily evaporates to the atmosphere. As a consequence, the potential for contaminating an otherwise non-hazardous waste with 1,1,1-trichloroethane originating from TAP MAGIC consumed during various machining operations is small. RCRA hazardous waste no. U226.

SARA HAZARD CATEGORY: This product has been reviewed according to the EPA 'Hazard Categories' promulgated under Sections 311 and 312 of the Super Fund Amendment and Reauthorization Act of 1986 (Sara Title III) and is considered, under applicable definitions, to meet the following categories: **An immediate health hazard.** This product contains toxic chemicals as listed in 40 CFR 372.65: 1,1,1-trichloroethane and 1,2-butylene oxide. TAP MAGIC does not contain any chemical compound listed on the SARA list of "Extremely Hazardous Chemicals", and is in compliance with all of the requirements of the TSCA at the time of shipment.

ADDITIONAL INFORMATION: TAP MAGIC does not contain Nitrites, Nitrite Derivatives, Amines, Polynuclear Aromatic Compounds or Benzene either as ingredients or as trace contaminants.

CAUTION: Any cutting fluid can be "overworked" or "overheated", causing it to break down. This overuse is identified by the sight of or strong odor of vapors or fumes not normally present. The effects of these vapors or fumes on human health have not been fully determined. After use of this product, clean and lubricate metal surfaces to avoid staining and/or corrosion.

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