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Material Safety Data Sheet

Printex

Prepared: 7/1/91
Supersedes: none

(substitute form OSHA-20)
This MSDS complies with 29 CFR 1910.1200 (The Hazard Communication Standard)

Emergency Phone No: (630) 627-9600 **24 hr. Emergency No: (800) 424-9300 (Chem-trec)**

Section I - Product Identification

Chemical Name & Synonyms: Isopropyl Alcohol 91% (Isopropanol, 2-propanol)
Trade Name & Synonyms: Printex Product Identification Number(s): ASP-1

Chemical Family: Alcohol Formula: (CH3)2 CHOH
DOT Hazard Classification: Flammable Liquid #UN1219
Hazard Rating (NFPA Codes): Health= 1 (blue) Flammability= 3 (red) Reactivity= 0 (yellow)

Product design restricts quantity of isopropanol for a single use to 6.2 grams (7 cc)

Section II - Hazardous Components

Ingredient	CAS#	% (by vol.)	PEL	TLV	Note
Isopropyl Alcohol	67-63-0	91%	400 ppm	400 ppm	(1)

Notes
(1) ACGIH - Short term exposure limit (STEL) for Isopropyl alcohol is 500 ppm. NIOSH recommends a limit of 400 ppm, 8 hour TWA, 800 ppm ceiling.

Section III - Physical Data

Boiling Point (1 atm [760 mmHg]): 175 - 178.5^{o}F (79.44 - 81.38^{o}C)
Vapor Pressure (68°F [20°C]): 33 mm Hg
Specific Vapor Pressure (air=1): 2.0
Specific Gravity (77°F [25°C]): .809 - .814
Percent Volatiles 100%
Evaporation Rate (N-Butyl Acetate=1) 2.0
Solubility in Water: Completely Soluble
Appearance: Clear, colorless liquid, alcohol odor

Section IV - Fire & Explosion Data

Flash Point (tag closed cup): 62°F (16.7^{o}C)
Flammable Limit: 2.0% (LEL)
Extinguishing Media: Carbon Dioxide, Dry Chemical or Water Fog
Hazardous Decomposition Products: Carbon Monoxide, Carbon Dioxide, etc.
Fire Fighting Procedures: Dilution of burning liquid with 25 volumes of water will effect extinguishment.
Unusual Fire and Explosion Hazards: OSHA class IB flammable liquid; Keep away from open flame, spark or other ignition source

Section V - Health Hazard Data

Permissible Exposure Level: 400 ppm
Threshold Limit Value: 400 ppm
Effects of Overexposure:
- Eyes: Can cause irritation, redness, tearing, blurred vision
- Skin: Prolonged or repeated contact can cause moderate irritation, defatting, dermatitis
- Breathing: Excessive inhalation can cause nasal and respiratory irritation, dizziness, weakness, nausea, headache

Chronic Overexposure: Has apparently been found to cause liver abnormalities & kidney disease in laboratory animals.
Suspected Cancer Agent: No

Primary routes of entry: Inhalation, skin contact

First Aid:
- Eye Contact: Irrigate with water
- Skin Contact: Flush with water

Inhalation: Remove to fresh air. Administer oxygen if breathing is difficult. If breathing has stopped give artificial respiration. Keep person warm, quiet, and get immediate medical attention.

Section VI - Reactivity Data

Hazardous Polymerization: Cannot occur
Stability: Stable
Incompatibility: Avoid contact with strong oxidizing agents

Section VII - Spill or Leak Procedures

Containment Methods (use protective equipment to guard against liquid contact and inhalation)

Small Spills: Absorb liquid with paper towels, evaporate flammable alcohol in explosion-proof exhaust hood and burn dry paper.

Large Spills: Eliminate all ignition sources (flares, flames including pilot lights, electrical sparks, etc..), persons not wearing protective equipment should be excluded from the area of spill until clean-up has been completed. Use non-sparking tools. Liquid may be taken up with sand, earth, vermiculite, floor absorbent, or other absorbent material and shoveled into containers.

Disposal Methods

Small Spills: Allow volatile portion to evaporate in hood. Allow sufficient time for vapors to completely clear hood and duct work. Dispose of remaining material in accordance with applicable regulations.

Large Spills: Destroy liquid by incineration.

Contaminated absorbent may be deposited in a landfill in accordance with local, state and federal regulations.

Section VIII - Protective Equipment Information

Ventilation: Provide sufficient mechanical (general and/or local exhaust) ventilation to maintain exposure below TLV(s).

Respiratory: If workplace exposure limit(s) of product or any component is exceeded (see Section II), a NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA regulations also permit other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your safety equipment supplier). Engineering or administrative controls should be implemented to reduce exposure.

Eye: Chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses. (Consult your safety equipment supplier).

Other: Wear resistant gloves, such as; natural rubber, neoprene. To prevent repeated or prolonged skin contact, wear impervious clothing and boots.

Section IX - Special Precautions or Other Comments

Store in a clean, cool, ventilated area away from sources of ignition and oxidizing agents. Handle and store in a manner suitable for an OSHA Class IB Flammable Liquid. Wash thoroughly after handling. Do not get in eyes, on skin, or clothing. Do not heat closed containers above 125°F (30°C). Do not smoke or eat in area of storage or use.

Toxicity:

Oral: rat LD50 = 5840 mg/kg Human Lethal Dose = 250 ml

Dermal: rabbit 500 mg on open skin caused mild irritation

Inhalation: rat LC50 = 52,000 ppm/ 4 hr

Carcinogenicity: This material is not considered to be a carcinogen by the National Toxicology Program, The International Agency for Research on Cancer or the Occupational Safety and Health Administration.

Notice:

The information accumulated herein is believed to be accurate but is not warranted to be, whether originating with *DOT MFG. & Aspect* or not. Recipients are advised to confirm, in advance of need, that the information is current, applicable and suitable to their circumstances. Additionally, users are responsible to determine whether the product is suitable for their particular purposes and they assume all risks of their use, handling and disposal of the product, or from the reliance upon information contained herein. This information relates only to the product designated here, and does not relate to its use in combination with any other material or in any other process.

The information contained in this MSDS is being provided with the understanding that it will be used only for the purpose of safety and health evaluations by your company. Such use may include disclosure to third parties as required by law. Any other use is

expressly prohibited. VIOLATIONS OF THE ABOVE UNDERSTANDING WILL BE PROSECUTED TO THE FULL EXTENT OF THE LAW.