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C.A.S. NO.: Mixture Proprietary

REVISION DATE: January 28, 2008

# MATERIAL SAFETY DATA SHEET

## 1. PRODUCT IDENTIFICATION

TRADE NAME: 281 PLUS ENHANCER SB

DOT SHIPPING NAME: Butyl Acetate Solution

DOT/UN ID NO.: UN 1223

LABEL REQUIRED: Flammable

DOT CLASS: 3

PACKING GROUP: III

## 2. INFORMATION ON HAZARDOUS INGREDIENTS

MATERIAL	C.A.S. NO.	PEL	STEL	TLV	AEL TWA
n-Butyl Acetate	123-86-4				
Fluornated Copolymer	Proprietary				
Methacrylate Resin	Proprietary	100 ppm		100 ppm	N/A

## 3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW: Flammable liquid.

POTENTIAL HEALTH EFFECTS:

EYE CONTACT: Causes irritation with discomfort, tearing or blurring of vision.

SKIN CONTACT: Frequent or prolonged contact may irritate and cause dermatitis or defatting of skin with itching, redness or rash. Low order of toxicity. Skin contact may aggravate an existing dermatitis condition. Butyl acetate and Petroleum distillates have been associated with skin sensitization in humans.

INHALATION: Inhalation of Butyl Acetate may cause irritation of the nose and throat with sneezing, sore throat or runny nose, non-specific discomfort, such as nausea, headache or weakness. Repeated and/or prolonged exposure may cause central nervous system depression with dizziness, confusion, incoordination, drowsiness or unconsciousness.

INGESTION: The major ingestion hazard of Butyl Acetate is aspiration (liquid entering the lungs during ingestion or vomiting) which may result in "chemical pneumonia". Symptoms may include coughing, gasping, choking, shortness of breath, blueish discoloration of the skin, rapid breathing and heart rate, and fever. Pulmonary edema or bleeding, drowsiness, confusion, coma and seizures may occur in more serious cases. Symptoms may occur immediately or as late as 24 hours after exposure, depending on amount of chemical that has entered lungs. Inhalation of spray vapors or mist may cause nasal, throat or lung irritation. Inhalation of large amounts of respirable particles may be toxic to the lungs. Symptoms may be modest initially, followed in hours by severe shortness of breath requiring prompt medical attention.

**CARINOGENICITY INFORMATION:** None of the components present in this material at concentrations equal to or greater than 0.1% are listed by IARC, NTP, OSHA or ACGIH as a carcinogen.

## 4. FIRST AID MEASURES

SKIN: Flush with large amounts of water; use soap if available. Remove grossly contaminated clothing, including shoes, and launder before reuse. If irritation develops, seek medical attention.

EYE: Flush eyes with large amounts of water until irritation subsides. If irritation persists, get medical attention.

INGESTION: If swallowed, DO NOT induce vomiting. Immediately give two glasses of water. Never give anything by mouth to an unconscious person. Keep victim at rest. Get prompt medical attention.

INHALATION: Using proper respiratory protection, immediately remove the affected victim from exposure. If breathing is difficult, administer oxygen. If breathing has stopped, administer artificial respiration. Call physician for prompt medical attention.

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## 5. FIRE FIGHTING MEASURES

FLASH POINT: 28° C (82° F) Method: Closed Cup  
FLAMMABLE LIMITS: Lower: 1.7% Upper: 7.6%  
EXTINGUISHING MEDIA: Foam, dry chemical, water spray, sand, and carbon dioxide.

SPECIAL FIRE FIGHTING PROCEDURE: Fire fighters should wear full protective clothing including a self-contained breathing apparatus (SCBA). Cool endangered container(s) with water.

UNUSUAL FIRE EXPLOSION HAZARD: This liquid is volatile and gives off invisible vapors. Either the liquid or vapor may settle in low areas or travel some distance along the ground or surface to ignition sources where they may ignite or explode.

AUTO IGNITION TEMPERATURE: >200° C (> 392° F)

HAZARDOUS DECOMPOSITION PRODUCTS: Carbon monoxide, carbon dioxide, hydrogen fluoride, toxic gases or particles may be formed during combustion.

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## 6. ACCIDENTAL RELEASE MEASURES

SMALL SPILL: Wipe up small spills and drips. Discard in approved container, dike and absorb when necessary with inert material, such as vermiculite. Transfer to appropriate container for disposal.

FOR LARGE SPILLS: Eliminate all sources of ignition, i.e. pilot lights, flames, flares, static buildup, etc. Dike and absorb, to prevent spreading, with inert material, such as vermiculite. Transfer to appropriate container for disposal. Evacuate all personnel and all persons not wearing protective equipment until cleanup has been completed. Stop spill at source. Do not flush to stream, river or other bodies of water or sewer. This material, if being discarded, would be classified as a hazardous ignitable waste and should be disposed of, only after solidification, in a facility authorized to receive waste according to federal, state and local regulations with inert material, such as vermiculite. Transfer to appropriate container for disposal.

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## 7. HANDLING AND STORAGE

Keep away from sources of ignition, heat, sparks and flame. Use with adequate ventilation. Keep containers closed. Ground and bond equipment against static buildup when pouring, dispensing and mixing. Containers of this material may be hazardous when emptied. Since emptied containers may contain product residues, i.e. vapor, liquid and/or solid, all hazard precautions given in the data sheet must be observed.

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## 8. EXPOSURE CONTROLS, PERSONAL PROTECTION

Use only with adequate ventilation. Vent heater or dryer fumes outside working area. Do not aerosolize.. In spray applications, use airless type pressure spray equipment at less than 60 psi. and exhaust ducts, drip pans or other design features to minimize worker exposure to mists and overspray.

RESPIRATORY PROTECTION: Use NIOSH/MSHA approved air supplied respirator is advised in absence of proper environmental control. OSHA also permits the use of other NIOSH/MSHA respirators (negative pressure type) under specified conditions (see your safety supplier). Engineering or administrative controls should be implemented to reduce exposure.

VENTILATION REQUIREMENTS: Designed and maintained to prevent buildup of vapors in excess of TLV or PEL (see Part 2). Proper authorities should be notified when product is used in a confined and habituated area.

EYE PROTECTION: Wear safety glasses or coverall chemical splash goggles in compliance with OSHA regulations are advised; however, OSHA regulations also permit other type safety glasses (consult your safety equipment supplier).

SKIN PROTECTION: Nitrile gloves, or equivalent. Impervious clothing and boots. Eye wash station and safety showers should be available.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

BOILING POINT: 120° C (248° F)  
VAPOR PRESSURE: 10.5 hPa @ 20° C  
VAPOR DENSITY: 0.968 @ 20° C  
ODOR: Ester  
FORM: Liquid  
COLOR: Straw/yellow  
SOLUBILITY IN WATER: None

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## 10. STABILITY AND REACTIVITY

CHEMICAL STABILITY: Stable at normal temperatures and storage conditions.

CONDITIONS TO AVOID: Avoid flames, welding arc, potential ignition sources or other high temperature sources which induce thermal decomposition.

HAZARDOUS POLYMERIZATION: Will not occur.

HAZARDOUS DECOMPOSITION PRODUCTS: May form toxic materials; carbon monoxide, carbon dioxide, hydrogen fluoride, toxic gasses or particles may be formed during combustion.

KEEP AWAY FROM: Strong oxidizers.

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## 11. TOXICOLOGICAL INFORMATION

Animal Data:

Fluoropolymer:	Oral LD50	>2,000 mg/kg in rats
	Inhalation 4 hour LC50:	21.7 g/m in rats
Butyl acetate:	Inhalation 4 hour LC50:	9200 ppm in rats
	Skin absorption ALD:	>17,652 mg/kg in rabbits
	Oral LD50:	14,130 mg/kg in rats

The product is a slight eye irritant but not a skin irritant in rabbits.

Butyl acetate is a skin and eye irritant and is untested for animal sensitization. Toxic effects described in animals from single exposures by inhalation include eye and nose irritation and narcosis. Repeated exposures caused decreased body weight gain, weakness and slight irritation to eyes and mucous membranes. Long term exposures resulted in degenerative changes in the liver and altered liver enzymes. Administration of the compound in single doses caused narcosis in rabbits. Repeated ingestion exposure with rats resulted in altered liver enzymes. No animal test reports are available to define carcinogenic or reproductive hazards. Tests in animals demonstrate developmental toxicity, but only at maternally toxic dose levels. The compound does not produce genetic damage in bacterial or mammalian cell cultures or animals. It has not been tested for heritable genetic damage.

EYE CONTACT: Can cause severe irritation, redness, tearing, blurred vision and possible irreversible damage.

SKIN CONTACT: Repeated or prolonged contact can cause irritation, dermatitis, redness and burning.

INHALATION: Excessive inhalation of vapors can cause nasal and respiratory irritation, dizziness, weakness, nausea, fatigue, headache, possible unconsciousness and even death. May cause allergic respiratory reaction similar to an asthma attack. Intentional misuse by deliberately concentrating and inhaling the contents may be harmful or fatal. Some reports have associated repeated and prolonged occupational overexposure to solvents with permanent brain damage.

INGESTION: Can cause gastro-intestinal irritation, nausea, vomiting and diarrhea. Other symptoms may include dizziness, drowsiness, weakness, fatigue, headache and unconsciousness. Swallowing small amounts incidental to normal handling is not likely to cause problems.

ACUTE EFFECTS FROM OVEREXPOSURE: Overexposure to this material (or its components) has apparently been found to cause the following effects in laboratory animals: anemia, liver abnormalities, kidney damage and eye damage. Overexposure to this material (or its components) has apparently been found to cause the following effects in humans: cardiac abnormalities. Persons with pre-existing skin or respiratory disorders may be more susceptible to the effects of the product.

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## 12. ECOLOGICAL INFORMATION

Ecotoxicological Information:

Fluoropolymer:	48 hour EC50, Daphnia magna: 56 mg/L
Butyl Acetate:	96 hour LC50, Bluegill Sunfish: 100 mg/L

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## 13. DISPOSAL CONSIDERATIONS

Treatment, storage, transportation and disposal must be in accordance to all federal, state/provincial and local regulations.

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## 14. TRANSPORTATION INFORMATION

**DOT - Not regulated in containers with capacity of less than 119 gallons. If greater than 119 gallons use:**

DOT SHIPPING NAME: Butyl Acetate Solution  
TECHNICAL SHIPPING NAME: 281 Plus Penetrating Seal  
DOT HAZARD CLASS: 3  
PACKING GROUP: III  
UN/NA NUMBER: UN 1123  
DOT LABEL: Flammable Liquid  
DOT PLACARD: Flammable

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## 15. OTHER INFORMATION

HEALTH	FLAMMABILITY	REACTIVITY	SPECIAL HAZARD
2	3	0	

(Degree of hazard: 0 = No Hazard, 4 = Severe Hazard)

**USERS RESPONSIBILITY:** A bulletin such as this cannot be expected to cover all possible individual situations. As the user has the responsibility to provide a safe workplace, all aspects of an individual operation should be examined to determine if, or where, precautions - in addition to those described herein - are required. Any health hazard and safety information herein should be passed on to your customers or employees, as the case may be.

**DISCLAIMER OF LIABILITY:** The information contained herein is, to the best of our knowledge and belief, accurate. However, since the conditions of handling and use are beyond our control, we make no guarantee of results, and assume no liability for damages incurred by use of this material. All chemicals may present unknown health hazards and should be used with caution. Although certain hazards are described herein, we cannot guarantee that these are the only hazards which exist. Final determination of suitability of the chemical is the sole responsibility of the user. No representations or warranties, either expressed or implied, of merchantability, fitness for a particular purpose or any other nature are made hereunder with respect to the information contained herein or the chemical to which the information refers. It is the responsibility of the user to comply with all applicable federal, state and local laws and regulations.

### Legend of terms

< = Less Than

> = More Than

N/A = Not Applicable or Not Available

N.D. = Not Determined

N.E. = None Established

PEL(OSHA): Permissible Exposure Limits

TLV (ACGIH)

AEL: The manufacturer of this product has established an Acceptable Exposure Limit. Where governmental imposed occupational limits are lower than the AEL are in effect, such limits shall take precedence.