

# MATERIAL SAFETY DATA SHEET

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **IN-FLOW 2:1**

CHEMICAL NAMES/ DESCRIPTION: Blend of scintillators in chiral phenylalkanes.

MANUFACTURER: IN/US Systems, Inc.  
5809 North 50th Street  
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EMERGENCY NUMBER:  
CHEMTREC (800) 424-9300

## 2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	% Comp	CAS #	EINECS #	TLV (units)
Phenyl Xylyl Ethane (PXE)	50 - 70	6196-95-8		none established
Primary Alcohol Ethoxylate	5 - 10	68439-46-3		none established
Butoxy Ethanol	5 - 10	111-76-2	111-76-2	25 ppm (skin)
Linear alkyl phenyl ethoxylates	20 - 30	9016-45-9		none established

## 3. HAZARDS IDENTIFICATION

**APPEARANCE AND ODOR:** Nearly odorless, clear blue-violet fluorescent liquid.

### EMERGENCY OVERVIEW - IMMEDIATE HAZARD

Phenyl Xylyl Ethane (PXE)

MAY BE IRRITATING TO THE SKIN, EYES, AND RESPIRATORY TRACT.

Butoxy Ethanol

CAUTION! SEVERELY IRRITATING TO THE EYES. IRRITATING TO THE SKIN, NOSE THROAT AND RESPIRATORY TRACT. TOXIC IF INHALED, INGESTED OR ABSORBED THROUGH SKIN.

Primary Alcohol Ethoxylate

NO INFORMATION FOUND.

### EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING

Phenyl Xylyl Ethane (PXE)

NO CHRONIC HEALTH HAZARDS KNOWN

Butoxy Ethanol

NO INFORMATION FOUND.

Primary Alcohol Ethoxylate

NO INFORMATION FOUND.

## POTENTIAL HEALTH EFFECTS

### INHALATION

Phenyl Xylyl Ethane (PXE)

Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs.

Butoxy Ethanol

Vapors may cause irritation to the nose, throat, and respiratory tract and are toxic if inhaled.

Primary Alcohol Ethoxylate

Information not found.

### INGESTION

Phenyl Xylyl Ethane (PXE)

May cause irritation of the mouth, throat, and gastrointestinal tract. Exposure may also cause central nervous system symptoms.

Butoxy Ethanol

Moderately toxic if ingested.

Primary Alcohol Ethoxylate

Moderately toxic by ingestion.

### SKIN

Phenyl Xylol Ethane (PXE)

May cause skin irritation.

Butoxy Ethanol

Product is mildly irritating to the skin and toxic if absorbed through the skin.

Primary Alcohol Ethoxylate

Severely irritating to the skin and moderately toxic if absorbed through the skin.

## EYES

Phenyl Xylol Ethane (PXE)

Exposure to vapors, fumes or mists may cause irritation. Direct contact may cause irritation.

Butoxy Ethanol

Causes severe eye irritation.

Primary Alcohol Ethoxylate

Severely irritating to the eyes.

## SIGNS AND SYMPTOMS OF OVEREXPOSURE

### INHALATION

Phenyl Xylol Ethane (PXE)

Sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. May cause central nervous system depression or effects. Symptoms may include headache, excitation, euphoria, dizziness, incoordination, drowsiness, light-headedness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death, depending on the concentration and duration of exposure.

Butoxy Ethanol

Burning in nose and throat, coughing. Headache, dizziness, drowsiness, fatigue, nausea.

Primary Alcohol Ethoxylate

### INGESTION

Phenyl Xylol Ethane (PXE)

Salivation, pain, nausea, vomiting and diarrhea. Exposure may also cause central nervous system symptoms similar to those listed under "Inhalation."

Butoxy Ethanol

Headache, dizziness, drowsiness, fatigue, nausea, vomiting.

Primary Alcohol Ethoxylate

### SKIN

Phenyl Xylol Ethane (PXE)

Drying, reddening, itching, and cracking. Repeated or prolonged contact with large amounts of this material may result in absorption through the skin to produce toxic effects.

Butoxy Ethanol

Redness, pain and itching.

Primary Alcohol Ethoxylate

### EYES

Phenyl Xylol Ethane (PXE)

Redness, tearing, and blurred vision.

Butoxy Ethanol

Redness, tearing, and pain.

Primary Alcohol Ethoxylate

## CARCINOGENICITY

Phenyl Xylol Ethane (PXE)

Not listed by NTP or IARC as a known or possible carcinogen.

Butoxy Ethanol

Not listed as a known or anticipated carcinogen by NTP or IARC.

Primary Alcohol Ethoxylate

No information available.

## MUTAGENICITY

Phenyl Xylol Ethane (PXE)

No information available.

Butoxy Ethanol

No information found.

Primary Alcohol Ethoxylate

No information available.

### REPRODUCTIVE TOXICITY

Phenyl Xylyl Ethane (PXE)  
No information available.

Butoxy Ethanol  
Inhalation exposure of pregnant rabbits caused some lethality to the dam and fetus at 200 ppm, but there were no effects at 100 ppm and below. Inhalation exposure to pregnant rats caused irritancy to the dams and related fetotoxicity at 200 and 100 ppm, but there were no effects at 50 ppm and below.

Primary Alcohol Ethoxylate  
No information available.

### TERATOGENIC EFFECTS

Phenyl Xylyl Ethane (PXE)  
No information available.

Butoxy Ethanol  
Has not been shown to cause birth defects.

Primary Alcohol Ethoxylate  
No information available.

### ROUTES OF ENTRY

Phenyl Xylyl Ethane (PXE)  
Ingestion, inhalation, skin contact.

Butoxy Ethanol  
Inhalation, ingestion, skin contact.

Primary Alcohol Ethoxylate  
Inhalation, ingestion, skin contact.

### TARGET ORGAN STATEMENT

Phenyl Xylyl Ethane (PXE)  
No information available.

Butoxy Ethanol  
Preexisting skin, eye, and lung disorders may be aggravated by exposure.

Primary Alcohol Ethoxylate  
No information available.

## 4. FIRST AID MEASURES

#### INHALATION:

Remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Call a physician.

#### INGESTION:

DO NOT INDUCE VOMITING. If swallowed and the person is conscious, immediately give large amounts of water. Get medical attention.

#### SKIN:

Immediately flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.

#### EYES:

Immediately flush eyes with plenty of water for at least fifteen minutes, lifting lower and upper eyelids occasionally. Get medical attention immediately.

## 5. FIRE FIGHTING MEASURES

**FLASH POINT:** 293 F **FLAMMABLE LIMITS:** ND

**FLASH POINT METHOD:** **AUTOIGNITION TEMPERATURE:** > 707 F

#### EXTINGUISHING MEDIA

Water spray, dry chemical, alcohol-resistant foam, or carbon dioxide.

#### PROTECTIVE EQUIPMENT

In the event of a fire, wear full protective clothing and NIOSH-approved self-contained breathing apparatus with full facepiece operated in the pressure demand or other positive pressure mode.

#### HAZARDOUS COMBUSTION PRODUCTS:

Thermal decomposition products may include carbon monoxide, carbon dioxide, and hydrocarbons.

## UNUSUAL FIRE AND EXPLOSION HAZARDS

Emits toxic fumes under fire conditions.

**NFPA CODES:** Health: 1      Flammability: 1      Reactivity: 0

## 6. ACCIDENTAL RELEASE MEASURES

### STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

Eliminate source of ignition. Ventilate area. Cover with absorbent material (soda ash) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors.

### WASTE DISPOSAL METHOD

Disposal must be made in accordance with applicable federal, state, and local regulations.

### PERSONAL PRECAUTIONS

Wear appropriate protective equipment as specified in section 8.

## 7. HANDLING AND STORAGE

### HANDLING

Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling. Transfer methods should avoid static sparks. Use explosion proof ventilation.

### STORAGE

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage.

**STORAGE TEMPERATURE:** Room Temperature

### DISPOSAL

Observe all national, state, and local regulations regarding disposal.

## 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

### AIRBORNE EXPOSURE LIMITS:

<b>Component:</b>	Phenyl Xylyl Ethane (PXE)	
<b>ACGIH Threshold Limit Value (TLV):</b>		none established
<b>OSHA Permissible Exposure Limit (PEL):</b>		
<b>Component:</b>	Butoxy Ethanol	
<b>ACGIH Threshold Limit Value (TLV):</b>		25 ppm (skin)
<b>OSHA Permissible Exposure Limit (PEL):</b>		25 ppm
<b>Component:</b>	Primary Alcohol Ethoxylate	
<b>ACGIH Threshold Limit Value (TLV):</b>		none established
<b>OSHA Permissible Exposure Limit (PEL):</b>		

### ENGINEERING CONTROLS

A system of local and/or general exhaust is recommended to keep employee exposures below the Airborn Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source.

### RESPIRATORY PROTECTION

For conditions of use where exposure to the substance is apparent, consult an industrial hygienist. For emergencies, or instances where the exposure levels are not known, use a full-facepiece positive-pressure, air-supplied respirator.

### EYE PROTECTION

Use chemical safety goggles and/or a full face shield where splashing is possible. Maintain eye wash fountain and quick-drench facilities in work area.

**SKIN PROTECTION**

Wear protective gloves and clean body covering clothing.

**OTHER CONTROL MEASURES**

N.A.

**9. PHYSICAL PROPERTIES**

<b>Boiling Point</b>	575 - 605 F	<b>Evaporation Rate</b>	Not measureable
<b>Melting Point</b>	N.A.	<b>Solubility in Water</b>	Slightly soluble.
<b>Vapor Pressure</b> mm Hg	< 0.1	<b>pH</b>	N.A.
<b>Vapor Density</b> Air = 1	Not determinable	<b>Specific Gravity</b> (H2O = 1)	0.91
<b>% Volatile by Volume</b>	< 1.0		

**10. STABILITY AND REACTIVITY****STABILITY**

Stable under ordinary conditions of use and storage.

**CONDITIONS TO AVOID**

Heat, sources of ignition.

**HAZARDOUS DECOMPOSITION PRODUCTS**

Combustion may produce toxic oxides of carbon and reactive hydrocarbons.

**HAZARDOUS POLYMERIZATION**

Will not occur

**INCOMPATIBLES****Phenyl Xylyl Ethane (PXE)**

Oxidizing agents.

**Primary Alcohol Ethoxylate**

Strong oxidizing agents. Aluminum surfaces at temperatures above 120 degrees..

**Butoxy Ethanol**

Strong oxidizing agents. Strong bases and salts of strong bases at elevated temperatures. Aluminum surfaces.

**Linear alkyl phenyl ethoxylates**

Oxidizing agents.

**11. TOXICOLOGICAL INFORMATION****PRODUCT LD50 VALUES**

IN-FLOW 2:1

**Oral Rat LD50 (mg/kg):** No Data

IN-FLOW 2:1

**Dermal Rabbit LD50 (mg/kg):** No Data**COMPONENT CANCER LIST STATUS**

<b>Component</b>	<b>NTP Carcinogen</b>		<b>IARC Category</b>
	<b>Known</b>	<b>Anticipated</b>	
Phenyl Xylyl Ethane (PXE)	No	No	None
Butoxy Ethanol	No	No	None
Primary Alcohol Ethoxylate	No	No	None
Linear alkyl phenyl ethoxylates	No	No	None

## 12. ECOLOGICAL INFORMATION

### Phenyl Xylyl Ethane (PXE)

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA is is the responsibility of the user to determine, at the time of disposal, whether the product meets the criteria for hazardous waste.

### Butoxy Ethanol

No information available.

### Primary Alcohol Ethoxylate

If this product becomes waste, it would not be a hazardous waste by RCRA criteria. Place in an appropriate disposal facility in compliance with local regulations.

### Linear alkyl phenyl ethoxylates

This product has been evaluated for RCRA characteristics and does not meet the criteria of a hazardous waste if discarded in its purchased form. Under RCRA is is the responsibility of the user to determine, at the time of disposal, whether the product meets the criteria for hazardous waste.

## 13. DISPOSAL CONSIDERATIONS

Observe all national, state, and local regulations regarding disposal.

## 14. TRANSPORT INFORMATION

### D.O.T.

**Proper Shipping Name:** Not regulated.

**Hazard Class:** N.A.

**UN Number:** N.A.

**Packing Group:** N.A.

### I.A.T.A.

**Proper Shipping Name:** Not regulated.

**Hazard Class:** N.A.

**UN Number:** N.A.

**Packing Group:** N.A.

### I.M.O.

**Proper Shipping Name:** Not regulated.

**Hazard Class:** N.A.

**UN Number:** N.A.

**Packing Group:** N.A.

## 15. REGULATORY INFORMATION

### UNITED STATES

#### TSCA Regulatory:

All intentional ingredients are listed on the TSCA Inventory.

#### SARA 311/312 Hazard Categories

Component	Fire	Pressure	Reactivity	Acute	Chronic
Phenyl Xylyl Ethane (PXE)	No	No	No	Yes	No
Butoxy Ethanol	Yes	No	No	Yes	No
Primary Alcohol Ethoxylate	No	No	No	Yes	No
Linear alkyl phenyl ethoxylates	No	No	No	Yes	No

### EUROPE

#### EEC Regulatory:

All intentional ingredients are listed on the European EINECS Inventory.

## 16. OTHER INFORMATION

**NFPA CODES:** Health: 1      Flammability: 1      Reactivity: 0

**MANUFACTURER DISCLAIMER:** The information given herein is offered in good faith as accurate, but without guarantee. Conditions of use and suitability of the product for particular uses are beyond our control. All risks of use of the product are therefore assumed by the user. Nothing is intended as a recommendation for uses which infringe valid patents or as extending license under valid patents. Appropriate warnings and safe handling procedures should be provided to handlers and users.