IN/US SYSTEMS, INC.

Revision Date: 10/12/2006

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME: **In-Flow ES**

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

MANUFACTURER: IN/US Systems, Inc.
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TELEPHONE NUMBER:

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EMERGENCY NUMBER:

CHEMTREC (800) 424-9300

2. COMPOSITION / INFORMATION ON INGREDIENTS

Component	% Comp	CAS #	EINECS #	TLV (units)
Nalkylene	70 - 85	129813-58-7		none established
Linear alkyl phenyl ethoxylates	15 - 30	9016-45-9		none established
1-methoxy-2-(2-methoxyethoxy)ethane	1 - 3	111-96-6		none established

3. HAZARDS IDENTIFICATION

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

EMERGENCY OVERVIEW - IMMEDIATE HAZARD

Nalkylene

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

Linear alkyl phenyl ethoxylates

CAUSES EYE IRRITATION. MAY CAUSE RESPIRATORY TRACT IRRITATION.

EMERGENCY OVERVIEW - CHRONIC HAZARD WARNING

Nalkylene

NO CHRONIC HEALTH HAZARDS KNOWN

Linear alkyl phenyl ethoxylates

NO ADVERSE EFFECTS HAVE BEEN DOCUMENTED IN HUMANS AS A RESULT OF CHRONIC EXPOSURE.

POTENTIAL HEALTH EFFECTS

INHALATION

Nalkylene

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

Linear alkyl phenyl ethoxylates

Vapors or mist, expecially as generated from heating the material or as from exposure in poorly ventilated areas or confined spaces, may be irritating and cause discomfort in nose and throat. Prolonged exposure may cause difficulty breathing.

INGESTION

Nalkylene

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

Linear alkyl phenyl ethoxylates

May be harmful by ingestion.

SKIN

Nalkylene

May cause skin irritation.

Linear alkyl phenyl ethoxylates

Brief contact may cause slight irritation. Prolonged contact, as with clothing wetted with material, may cause more severe irritation and discomfort.

EYES

Nalkylene

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

Linear alkyl phenyl ethoxylates

Causes irritation and possible injury to the cornea.

SIGNS AND SYMPTOMS 0F OVEREXPOSURE

INHALATION

Nalkylene

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.

Linear alkyl phenyl ethoxylates

Discomfort in nose and throat, nasal discharge, coughing, difficulty breathing.

INGESTION

Nalkylene

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

Linear alkyl phenyl ethoxylates

Abdominal discomfort, nausea, and diarrhea.

SKIN

Nalkylene

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.

Linear alkyl phenyl ethoxylates

Local redness and swelling.

EYES

Nalkylene

Redness, tearing, and blurred vision.

Linear alkyl phenyl ethoxylates

Excess blinking and tear production. Marked redness and swelling of the eye with injury to the cornea.

CARCINOGENICITY

Nalkylene

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

Linear alkyl phenyl ethoxylates

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

MUTAGENICITY

Nalkylene

No information available.

Linear alkyl phenyl ethoxylates

No information available.

REPRODUCTIVE TOXICITY

Nalkylene

No information available.

Linear alkyl phenyl ethoxylates

No information available.

TERATOGENIC EFFECTS

Nalkylene

No information available.

Linear alkyl phenyl ethoxylates

No information available.

ROUTES OF ENTRY

Nalkylene

Ingestion, inhalation, skin contact.

Linear alkyl phenyl ethoxylates

Ingestion, inhalation.

TARGET ORGAN STATEMENT

Nalkylene

No information available.

Linear alkyl phenyl ethoxylates

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 because of danger of aspiration in lungs. Get medical attention immediately. Adverse effects of aspiration into the lungs may be delayed up to 48 hours.

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:	>93 C	**FLAMMABLE LIMITS:**	ND
FLASH POINT METHOD:	PMCC	**AUTOIGNITION TEMPERATURE:**	ND

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:
Fires involving this product may release carbon monoxide, carbon dioxide, reactive hydrocarbons and irritating vapors.

UNUSUAL FIRE AND EXPLOSION HAZARDS
Vapors may form explosive mixtures with air. Vapors can travel to a source of ignition and flash back.

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 (dry sand or earth) 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. Do not eat, drink, or smoke in areas of use or storage.

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:

Component: Nalkylene

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL):

Component: Linear alkyl phenyl ethoxylates

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL):

ENGINEERING CONTROLS

A system of local and/or general exhaust is recommended. 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

Boiling Point	270 - 312 C	**Evaporation Rate**	Not measureable
Melting Point	N.A.	**Solubility in Water**	30% by weight @ 20C
Vapor Pressure mm Hg	< 0.1 mm HG	**pH**	N/D
Vapor Density Air = 1	between 8 and 9	**Specific Gravity** (H20 = 1)	0.91
% Volatile by Volume	100%		

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, nitrogen, sulfur and reactive hydrocarbons.

HAZARDOUS POLYMERIZATION

Will not occur

INCOMPATIBLES

Nalkylene

Oxidizing agents.

Linear alkyl phenyl ethoxylates

Oxidizing agents.

1-methoxy-2-(2-methoxyethoxy)ethane
No information found.

11. TOXICOLOGICAL INFORMATION

PRODUCT LD50 VALUES

In-Flow ES	**Oral Rat LD50 (mg/kg):**	46,000 mg/kg
In-Flow ES	**Dermal Rabbit LD50 (mg/kg):**	ND

COMPONENT CANCER LIST STATUS

	NTP Carcinogen		
Component	**Known**	**Anticipated**	**IARC Category**
Nalkylene	No	No	None
Linear alkyl phenyl ethoxylates	No	No	None
1-methoxy-2-(2-methoxyethoxy)ethane	No	No	None

12. ECOLOGICAL INFORMATION

Nalkylene
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.

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.

1-methoxy-2-(2-methoxyethoxy)ethane
When released into the soil, this material may biodegrage to a moderate extent. When released into the soil, this material is expected to quickly evaporate. When released into the soil, this material is expected to leach into the groundwater. This material has an experimentally-determined biocencentration factor (BCF) of less than 100. This material is not expected to significantly bioaccumulate. When released into the air, this material may be moderately degraded by reaction with photochemically produced hydroxyl radicals. When released into the air, this material is not expected to be subject to wet deposition. When released into the air, this material is expected to have a half-life of less than 1 day.

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
Nalkylene	No	No	No	Yes	No
Linear alkyl phenyl ethoxylates	No	No	No	Yes	No
1-methoxy-2-(2-methoxyethoxy)ethane	Yes	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.