

# SAFETY DATA SHEET



Conforms to regulation (EC) no. EU 453/2010

## SECTION 1 - IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

### 1.1 Product Identifier

**Product Name:** Monoflow 2

**Product Number:** LS-282

### 1.2 Relevant Identified Uses of the Substance/Mixture and Uses Advised Against

Investigational research by professional users

### 1.3 Details of the Supplier of the Safety Data Sheet

#### Manufacturer

National Diagnostics  
305 Patton Drive  
Atlanta, GA 30036  
(404) 699-2121  
(800) 526-3867  
info@nationaldiagnostics.com

### 1.4 Emergency Telephone Number

#### ChemTel Inc.

Contract number MIS8894340  
1-800 255-3924 (United States, Canada, Puerto Rico & US Virgin Islands)  
01-800-099-0731 (Mexico)  
400-120-0751 (China)  
000-800-100-4086 (India)  
1-300-954-583 (Australia)  
0-800-591-6042 (Brazil)  
+1-813-255-3924 (All other regions)

## SECTION 2 - HAZARDS IDENTIFICATION

### 2.1 Classification of the Substance or Mixture

#### Classification according to Regulation (EC) No. 1272/2008 [EU-GHS/CLP]

H226 - Flammable Liquids (Category 3)  
H302 - Acute Toxicity-Oral (Category 4)  
H304 - Aspiration Hazard (Category 1)  
H315 - Skin Corrosion/Irritation (Category 2)  
H319 - Serious Eye Damage/Eye Irritation (Category 2A)  
H336 - May cause drowsiness or dizziness  
H411 - Chronic Hazards to the Aquatic Environment (Category 2)

### 2.2 Label Elements

#### GHS LABEL ELEMENTS AND CLASSIFICATION

##### GHS Label Elements



#### DANGER

H226 - Flammable liquid and vapor.  
H302 - Harmful if swallowed  
H304 - May be fatal if swallowed and enters airways.  
H315 - Causes skin irritation.  
H319 - Causes serious eye irritation.  
H336 - May cause drowsiness or dizziness.  
H411 - Toxic to aquatic life with long lasting effects.  
P233 - Keep container tightly closed.  
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray.  
P273 - Avoid release to the environment.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician .  
P331 - Do NOT induce vomiting.  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.

### 2.3 Other Hazards

None found.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixture

#### Chemical Names/Description

Aromatic hydrocarbons and nonionic surfactants with scintillation phosphors.

## Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Solvent Naphtha, Light Aromatic	60 - 70	64742-95-6	265-199-0	H226, H304, H315, H336, H411
Primary Alcohol Ethoxylate	5 - 10	68439-46-3	614-482-0	H318

## SECTION 4 - FIRST AID MEASURES

### 4.1 Description of 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.

### 4.2 Most Important Symptoms and Effects, Both Acute and Delayed

#### Inhalation

##### Solvent Naphtha, Light Aromatic:

Symptoms may include sore throat, coughing, labored breathing, sneezing and burning sensation, depending on the concentration and duration of exposure. If CNS depression or effects occur, symptoms 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.

##### Primary Alcohol Ethoxylate:

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.

#### Ingestion

##### Solvent Naphtha, Light Aromatic:

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

##### Primary Alcohol Ethoxylate:

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

#### Skin

##### Solvent Naphtha, Light Aromatic:

Reddening, itching, and inflammation.

##### Primary Alcohol Ethoxylate:

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.

#### Eyes

##### Solvent Naphtha, Light Aromatic:

Irritation, redness, tearing, and blurred vision.

##### Primary Alcohol Ethoxylate:

Redness, tearing, and blurred vision.

### 4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed

Unknown/not applicable

## SECTION 5 - FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

Dry powder, foam, carbon dioxide. (Water may be ineffective.)

### 5.2 Special Hazards Arising from the Substance/Mixture

#### Hazardous Combustion Products

Thermal decomposition products may include toxic oxides of nitrogen, sulfur, and carbon.

### **Hazardous Decomposition Products**

Combustion products include hazardous oxides or carbon, nitrogen, and sulfur.

### **Hazardous Polymerization**

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### **5.3 Advice for Firefighters**

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.

### **5.4 Further Information**

No data available.

## **SECTION 6 - ACCIDENTAL RELEASE MEASURES**

### **6.1 Personal Precautions**

Wear appropriate protective equipment as specified in Section 8.

### **6.2 Environmental Precautions**

Prevent discharge into the environment. Dike spills and stop leakage where practical. Do not allow material to enter drains.

### **6.3 Methods and Materials for Containment and Cleaning Up**

Isolate hazard area and deny entry. Keep ignition sources out of area and shut off all ignition sources. Absorb spill with inert material (e.g. dry sand or earth) then place in a chemical waste container.

### **6.4 References to Other Sections**

For disposal information, see Section 13. For protective clothing and equipment, see Section 8.

## **SECTION 7 - HANDLING AND STORAGE**

### **7.1 Precautions for Safe 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.

### **7.2 Conditions for Safe Storage (including any incompatibles)**

Keep in a tightly closed container, stored in a cooled, dry, ventilated area away from sources of heat or ignition. Protect from physical damage. Isolate from incompatible materials (section 10).

#### **Incompatibles**

**Solvent Naphtha, Light Aromatic:**  
Oxidizing agents.

#### **Primary Alcohol Ethoxylate:**

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

### **7.3 Specific End Uses**

Investigational research by professional users

## **SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS**

### **8.1 Control Parameters**

#### **Component: Solvent Naphtha, Light Aromatic**

ACGIH Threshold Limit Value (TLV): 50 ppm

OSHA Permissible Exposure Limit (PEL): None established

#### **Component: Primary Alcohol Ethoxylate**

ACGIH Threshold Limit Value (TLV): none established

OSHA Permissible Exposure Limit (PEL): None established

### **8.2 Exposure Controls**

#### **Engineering Controls**

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

#### **Respiratory Protection**

If the exposure limit is exceeded, wear a supplied air, full-facepiece respirator, airlined hood, or full-facepiece self-contained breathing apparatus.

#### **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 impervious protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.

## SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Clear, colorless liquid	b. Odor	Slight aromatic
c. Odor Threshold	N.A.	d. pH	Neutral
e. Melting/Freezing Point (°C)	0	f. Boiling point (°C)	340 F (171C)
g. Flash Point (°C)	49	h. Evaporation Rate	< 0.1 Bu-Acetate = 1
i. Flammability	Combustible	j. Upper/Lower Flammability or Explosive Limits	ND
k. Vapor Pressure	2.0 mm Hg @ 25 C	l. Vapor Density (Air = 1)	4.8
m. Relative Density	0.89	n. Water Solubility	33% (V/V)
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	865.4 F
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	2.2 cSt @ 40 C
s. Explosive Properties	volatile, combustible solvent	t. Oxidizing Properties	Not an oxidizer

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

Not reactive under normal conditions of use.

### 10.2 Chemical Stability

Stable under recommended conditions of use and storage.

### 10.3 Possibility of Hazardous Reactions

Will not occur under normal conditions of use (See Sections 10.4 & 10.5).

### 10.4 Conditions to Avoid

Heat, sources of ignition, and incompatibles.

### 10.5 Incompatible Materials

**Solvent Naphtha, Light Aromatic:**  
Oxidizing agents.

**Primary Alcohol Ethoxylate:**

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

### 10.6 Hazardous Decomposition Products

Combustion products include hazardous oxides or carbon, nitrogen, and sulfur.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Product LD50 Values

#### Oral Rat LD50 (mg/kg)

4.8 g/kg

#### Dermal Rabbit LD50 (mg/kg)

N.A.

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Solvent Naphtha, Light Aromatic	No	No	3
Primary Alcohol Ethoxylate	No	No	None

### Potential Health Effects

#### Inhalation

**Solvent Naphtha, Light Aromatic**

SLIGHTLY TOXIC. Breathing of the mists, vapors or fumes may irritate the nose, throat, and lungs. May cause central nervous system depression or effects. May cause cardiac sensitization, including arrhythmias (irregular heart beats) and death due to cardiac arrest. Chronic exposure to high doses may damage the peripheral nerves, resulting in numbness or tingling in the extremities. See also Reproductive Toxicity and Target Organ Statement for further special toxic effects.

**Primary Alcohol Ethoxylate**

Information not found.

#### Ingestion

**Solvent Naphtha, Light Aromatic**

MODERATELY TOXIC. May cause irritation of the mouth, throat, and gastrointestinal tract. Aspiration into lungs may cause chemical

pneumonia and lung damage. Aspiration symptoms may be delayed in onset by up to 24 hours. Exposure may also cause central nervous system symptoms similar to those listed under Signs and Symptoms of Overexposure - Inhalation. See also Reproductive Toxicity and Target Organ Statement for further special toxic effects.

**Primary Alcohol Ethoxylate**  
Moderately toxic by ingestion.

### **Skin**

**Solvent Naphtha, Light Aromatic**  
SLIGHTLY IRRITATING. Contact may cause reddening, itching and inflammation. Repeated or prolonged skin contact may cause reddening, itching and inflammation. Defatting agent.

**Primary Alcohol Ethoxylate**  
Severely irritating to the skin and moderately toxic if absorbed through the skin.

### **Eyes**

**Solvent Naphtha, Light Aromatic**  
SLIGHTLY IRRITATING. Exposure to vapors, fumes or mists may cause irritation. Direct contact may cause irritation, redness, tearing, and blurred vision. Prolonged or repeated exposure may cause irritation and conjunctivitis.

**Primary Alcohol Ethoxylate**  
Severely irritating to the eyes.

### **Carcinogenicity**

**Solvent Naphtha, Light Aromatic**  
Benzene, a known carcinogen, may be present in trace amounts, less than 50 ppm. Otherwise, there are no known or anticipated carcinogens present in Naphtha.

**Primary Alcohol Ethoxylate**  
No information available.

### **Mutagenicity**

**Solvent Naphtha, Light Aromatic**  
No information available.

**Primary Alcohol Ethoxylate**  
No information available.

### **Reproductive Toxicity**

**Solvent Naphtha, Light Aromatic**  
This product contains components which may cause adverse reproductive effects. Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.

**Primary Alcohol Ethoxylate**  
No information available.

### **Teratogenic Effects**

**Solvent Naphtha, Light Aromatic**  
This product contains components which may cause adverse developmental effects. Pregnant women may be at an increased risk from exposure. Consumption of alcoholic beverages may enhance toxic effects.

**Primary Alcohol Ethoxylate**  
No information available.

### **Routes of Entry**

**Solvent Naphtha, Light Aromatic**  
Inhalation, ingestion, or skin contact.

**Primary Alcohol Ethoxylate**  
Inhalation, ingestion, skin contact.

### **Target Organ Statement**

**Solvent Naphtha, Light Aromatic**  
Acute or chronic overexposure to this material or its components may cause systemic toxicity, including adverse effects to the following: kidney, liver, spleen, adrenals, thymus and central nervous system. Pre-existing medical conditions which may be aggravated by exposure include disorders of the skin, kidney, liver, cardiovascular and respiratory systems.

**Primary Alcohol Ethoxylate**  
No information available.

## **SECTION 12 - ECOLOGICAL INFORMATION**

### **12.1 Toxicity**

**COMPONENT: Solvent Naphtha, Light Aromatic**

**Vertebrates**

**Invertebrates**

**Algae**

**Microorganisms**

Aquatic Toxicity (ppm unless otherwise noted)	LL50 (96 hr, fathead minnow) 8.2mg/l	EL50 (48hr, daphnia) 4.5mg/l	EL50 3.1mg/l	EL50 15mg/l
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	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	PNEC 0.4-20 mg/l	PNEC 0.4-20 mg/l	PNEC 0.4-20 mg/l

**COMPONENT: Primary Alcohol Ethoxylate**

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**12.2 Persistence and Degradability**

Solvent Naphtha, Light Aromatic

Inherently biodegradable: 74% elimination in 28 days

Primary Alcohol Ethoxylate

No data

**12.3 Bioaccumulative Potential**

Solvent Naphtha, Light Aromatic

No data

Primary Alcohol Ethoxylate

No data

**12.4 Mobility in Soil**

Solvent Naphtha, Light Aromatic

log Koc ~2

Primary Alcohol Ethoxylate

No data

**12.5 Results of PBT and vPvB Assessment**

Solvent Naphtha, Light Aromatic

not PBT / vPvB

Primary Alcohol Ethoxylate

No data

**12.6 Other Adverse Effects**

Solvent Naphtha, Light Aromatic

None

Primary Alcohol Ethoxylate

None

**SECTION 13 - DISPOSAL CONSIDERATIONS**

**13.1 Waste Treatment Methods**

Offer surplus or non-recyclable product to licensed disposal company. Disposal is subject to user compliance with applicable law and product characteristics at time of disposal. Dispose of packaging as product.

**SECTION 14 - TRANSPORT INFORMATION**

	ADR/RID	IATA	IMO	DOT
14.1 UN Number	1268	1268	1268	N.A.
14.2 Shipping Name	Petroleum Products N.O.S.	Petroleum Products N.O.S.	Petroleum Products N.O.S.	Not regulated.
14.3 Hazard Class	3	3	3	N.A.
14.4 Packing Group	III	III	III	N.A.
14.5 Environmental Hazards	N.A.	N.A.	Marine pollutant	N.A.
14.6 Special Precautions	N.A.	N.A.	N.A.	N.A.

**SECTION 15 - REGULATORY INFORMATION**

**15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance/Mixture United States**

TSCA Regulatory Statement

All intentional ingredients are listed on the TSCA Inventory.

**SARA 311/312 Hazard Categories**

<b>Component</b>	<b>Fire</b>	<b>Pressure</b>	<b>Reactivity</b>	<b>Acute</b>	<b>Chronic</b>
Solvent Naphtha, Light Aromatic	Yes	No	No	Yes	Yes
Primary Alcohol Ethoxylate	No	No	No	Yes	No

**Europe****EEC Regulatory**

All intentional ingredients are listed on the European EINECS Inventory.

**SECTION 16 - OTHER INFORMATION****Revisional Updates**

4/26/2019 - Updated Section 1.4

5/29/2015 - Updated Sections 2.1 and 3.2

10/30/2013 - Released Version 1.0

**NFPA Codes**

**Health 1 Flammability 2 Reactivity 0**

**Dangers****Solvent Naphtha, Light Aromatic**

H226 - Flammable liquid and vapor.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation.

H336 - May cause drowsiness or dizziness.

H411 - Toxic to aquatic life with long lasting effects.

**Primary Alcohol Ethoxylate**

H318 - Causes serious eye damage.

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