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: Uniscint BD **Product Number:** LS-276

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]
H302 - Acute Toxicity-Oral (Category 4)
H312 - Acute Toxicity-Dermal (Category 4)
H315 - Skin Corrosion/Irritation (Category 2)
H319 - Serious Eye Damage/Eye Irritation (Category 2A)
H332 - Acute Toxicity-Inhalation (Category 4)
H412 - Chronic Hazards to the Aquatic Environment (Category 3)

2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements

WARNING
H302 - Harmful if swallowed
H312 - Harmful in contact with skin.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.
H412 - Harmful to aquatic life with long lasting effects.
P301+P312 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician IF you feel unwell.
P302+P352 - IF ON SKIN: Wash with plenty of soap and water.
P304+P341 - IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
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 surfactants with scintillation phosphors

Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification

Nalkylene	45 - 60	67774-74-7		N.A.
Alcohol ethoxylate phosphate ester	10 - 20	51811-79-1		H315, H319
Butoxy Ethanol	10 - 20	111-76-2	203-905-0	H302, H312, H315, H319, H332
Linear alkyl phenyl ethoxylates	10 - 20	9016-45-9	500-024-6	H315, H319, H411

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 because of danger of aspiration into the 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.

4.2 Most Important Symptoms and Effects, Both Acute and Delayed

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.

Alcohol ethoxylate phosphate ester:
Discomfort in nose and throat, nasal discharge, coughing, difficulty breathing.

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

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.

Alcohol ethoxylate phosphate ester:
Abdominal discomfort, nausea, and diarrhea.

Butoxy Ethanol:
Headache, dizziness, drowsiness, fatigue, nausea, vomiting.

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.

Alcohol ethoxylate phosphate ester:
Local redness and swelling.

Butoxy Ethanol:
Redness, pain and itching.

Linear alkyl phenyl ethoxylates:
Local redness and swelling.

Eyes

Nalkylene:
Redness, tearing, and blurred vision.

Alcohol ethoxylate phosphate ester:
Excess blinking and tear production. Marked redness and swelling of the eye with injury to the cornea.

Butoxy Ethanol:
Redness, tearing, and pain.

Linear alkyl phenyl ethoxylates:
Excess blinking and tear production. Marked redness and swelling of the eye with injury to the cornea.

4.3 Indication of Any Immediate Medical Attention and Special Treatment Needed
Unknown/not applicable

SECTION 5 - FIRE FIGHTING MEASURES
5.1 Extinguishing media
Water spray, dry chemical, alcohol-resistant foam, or carbon dioxide.

5.2 Special Hazards Arising from the Substance/Mixture
Hazardous Combustion Products
Fires involving this product may release carbon monoxide, carbon dioxide, reactive hydrocarbons and irritating vapors.

Hazardous Decomposition Products
Combustion may produce toxic oxides of carbon, nitrogen, sulfur and reactive hydrocarbons.

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
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.

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.

Incompatibles
Nalkylene:
Oxidizing agents.

Alcohol ethoxylate phosphate ester:
Oxidizing agents.

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

Linear alkyl phenyl ethoxylates:
Oxidizing agents.

7.3 Specific End Uses
Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

Component: Nalkylene
ACGIH Threshold Limit Value (TLV): none established
OSHA Permissable Exposure Limit (PEL): None established

Component: Alcohol ethoxylate phosphate ester
ACGIH Threshold Limit Value (TLV): none established
OSHA Permissable Exposure Limit (PEL): None established

Component: Butoxy Ethanol
ACGIH Threshold Limit Value (TLV): 25 ppm (skin)
OSHA Permissable Exposure Limit (PEL): 25 ppm

Component: Linear alkyl phenyl ethoxylates
ACGIH Threshold Limit Value (TLV): none established
OSHA Permissable Exposure Limit (PEL): None established

8.2 Exposure Controls

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.

SECTION 9 - PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on Basic Physical & Chemical Properties

a. Appearance	Aromatic hydrocarbon	**b. Odor**	None
c. Odor Threshold	N.A.	**d. pH**	N.A.
e. Melting/Freezing Point (^{o}C)	0	**f. Boiling point (^{o}C)**	302-318
g. Flash Point (^{o}C)	82	**h. Evaporation Rate**	Not measureable
i. Flammability	N.A.	**j. Upper/Lower Flammability or Explosive Limits**	N.D.
k. Vapor Pressure	< 0.1	**l. Vapor Density (Air = 1)**	Not determinable
m. Relative Density	0.91	**n. Water Solubility**	30% by weight @ 20C
o. Partition Coefficient n-octanol/water	Mixture	**p. Autoignition Temperature (^{o}C)**	N.D.
q. Decomposition Temperature (^{o}C)	N.A.	**r. Viscosity**	ND
s. Explosive Properties	N.A.	**t. Oxidizing Properties**	Not an oxidizer

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity
Reacts with strong alkalai. May corrode metals.

10.2 Chemical Stability
Stable under ordinary 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.

10.5 Incompatible Materials
Nalkylene:
Oxidizing agents.

Alcohol ethoxylate phosphate ester:
Oxidizing agents.

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

Linear alkyl phenyl ethoxylates:
Oxidizing agents.

10.6 Hazardous Decomposition Products
Combustion may produce toxic oxides of carbon, nitrogen, sulfur and reactive hydrocarbons.

SECTION 11 - TOXICOLOGICAL INFORMATION
Product LD50 Values
Oral Rat LD50 (mg/kg)
No Data

Dermal Rabbit LD50 (mg/kg)
No Data

Component Cancer List Status

	NTP Carcinogen		
	Known	Anticipated	IARC Category
Nalkylene	No	No	None
Alcohol ethoxylate phosphate ester	No	No	None
Butoxy Ethanol	No	No	None
Linear alkyl phenyl ethoxylates	No	No	None

Potential Health Effects
Inhalation
Nalkylene
Breathing of the mists, vapors or fumes may irritate the nose, throat and lungs.

Alcohol ethoxylate phosphate ester
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.

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

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.

Alcohol ethoxylate phosphate ester
May be harmful by ingestion.

Butoxy Ethanol
Moderately toxic if ingested.

Linear alkyl phenyl ethoxylates
May be harmful by ingestion.

Skin
Nalkylene
May cause skin irritation.

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

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

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.

Alcohol ethoxylate phosphate ester

Causes irritation and possible injury to the cornea.

Butoxy Ethanol
Causes severe eye irritation.

Linear alkyl phenyl ethoxylates
Causes irritation and possible injury to the cornea.

Carcinogenicity

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

Alcohol ethoxylate phosphate ester
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.

Linear alkyl phenyl ethoxylates
Not listed by NTP or IARC as a known or possible carcinogen.

Mutagenicity

Nalkylene
No information available.

Alcohol ethoxylate phosphate ester
No information available.

Butoxy Ethanol
No information found.

Linear alkyl phenyl ethoxylates
No information available.

Reproductive Toxicity

Nalkylene
No information available.

Alcohol ethoxylate phosphate ester
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.

Linear alkyl phenyl ethoxylates
No information available.

Teratogenic Effects

Nalkylene
No information available.

Alcohol ethoxylate phosphate ester
No information available.

Butoxy Ethanol
Has not been shown to cause birth defects.

Linear alkyl phenyl ethoxylates
No information available.

Routes of Entry

Nalkylene
Ingestion, inhalation, skin contact.

Alcohol ethoxylate phosphate ester
Ingestion, inhalation.

Butoxy Ethanol
Inhalation, ingestion, skin contact.

Linear alkyl phenyl ethoxylates
Ingestion, inhalation.

Target Organ Statement

Nalkylene
No information available.

Alcohol ethoxylate phosphate ester
No information available.

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

Linear alkyl phenyl ethoxylates
No information available.

SECTION 12 - ECOLOGICAL INFOMATION

12.1 Toxicity

COMPONENT: Nalkylene

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	NOEC10 (14 days, zebrafish) >10ug/L	EC50 (daphnia)> 0.041 mg/l	EC50 (72 hrs) >100 ug/l	No data

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

COMPONENT: Alcohol ethoxylate phosphate ester

	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

COMPONENT: Butoxy Ethanol

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr, trout) 1464mg/l	EC50 (48 hr daphnia) 1800 mg/L	EC50 (72 hr) 911mg/l	Toxicity Threshold 483mg/L

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

COMPONENT: Linear alkyl phenyl ethoxylates

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	No data	LC50(48hrs, daphnia) 1.821 mg/L	EC50 (48hrs) 20 mg/L	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

Nalkylene
Readily biodegradable (>60% elimination in 28 days)

Alcohol ethoxylate phosphate ester
Not readily biodegradable- 13% elimination in 28 days

Butoxy Ethanol
Readily biodegradable (90% in 28 days)

Linear alkyl phenyl ethoxylates
Readily biodegradable >97% elimination in 30 days

12.3 Bioaccumulative Potential

Nalkylene
BCF 35

Alcohol ethoxylate phosphate ester
No data

Butoxy Ethanol
No data

Linear alkyl phenyl ethoxylates
No data

12.4 Mobility in Soil

Nalkylene
Log Koc 4.34

Alcohol ethoxylate phosphate ester
Ultimate destination: water or sediment

Butoxy Ethanol
No data

Linear alkyl phenyl ethoxylates
No data

12.5 Results of PBT and vPvB Assessment

Nalkylene
Not PBT or vPvB

Alcohol ethoxylate phosphate ester
No data

Butoxy Ethanol
Not PBT/vPvB

Linear alkyl phenyl ethoxylates
Substance is PBT / vPvB

12.6 Other Adverse Effects

Nalkylene
None

Alcohol ethoxylate phosphate ester
None

Butoxy Ethanol
None

Linear alkyl phenyl ethoxylates
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	N.A.	N.A.	N.A.	N.A.
14.2 Shipping Name	Not regulated.	Not regulated.	Not regulated.	Not regulated.
14.3 Hazard Class	N.A.	N.A.	N.A.	N.A.
14.4 Packing Group	N.A.	N.A.	N.A.	N.A.
14.5 Environmental Hazards	N.A.	N.A.	N.A.	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

Component	Fire	Pressure	Reactivity	Acute	Chronic
Nalkylene	No	No	No	Yes	No
Alcohol ethoxylate phosphate ester	No	No	No	Yes	No
Butoxy Ethanol	Yes	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.

SECTION 16 - OTHER INFORMATION

Revisional Updates

4/26/2019 - Updated Section 1.4
5/29/2015 - Updated Sections 2.1 and 3.2
11/6/2013 - Released Version 1.0

NFPA Codes

Health 1 **Flammability** 1 **Reactivity** 0

Dangers

Nalkylene
None

Alcohol ethoxylate phosphate ester
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.

Butoxy Ethanol
H302 - Harmful if swallowed
H312 - Harmful in contact with skin.
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H332 - Harmful if inhaled.

Linear alkyl phenyl ethoxylates
H315 - Causes skin irritation.
H319 - Causes serious eye irritation.
H411 - Toxic to aquatic life with long lasting effects.

MANUFACTURER DISCLAIMER: The information given herein is offered in good faith as accurate, but without guarantee. Conditions of the 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.