

spectrum

chemicals & laboratory products

A Division of Spectrum Chemical Mfg. Corp.

Dear Customer,

This File Contains Both The ANSI Material Safety Data Sheet and The GHS Safety Data Sheet For The Same Product

Spectrum is currently transitioning all chemical product labeling from the ANSI¹ format to the GHS² format (see note below). In order to ensure that you receive complete labeling during the transition, we have included both the ANSI MSDS and the GHS SDS in a single file. The ANSI MSDS is given first, followed by the GHS SDS. Please use whichever matches the container label.

Why It Matters:

The complete precautionary labeling for this chemical consists of BOTH the label on the container AND the matching Material Safety Data Sheet (for ANSI labels) or Safety Data Sheet (for GHS labels). Both elements of the labeling [Label + (M)SDS] are written to be read and understood together, so as to provide complete precautionary information. It is intended for you to read and understood BOTH before handling or using the chemical.

Picking the Right One: 2 Easy Ways To Tell Whether Your Container Has an ANSI Label or a GHS Label

- 1) GHS labels: any pictogram displayed in the upper left-hand corner will be inside a red diamond. ANSI labels: pictograms, if present, will be inside individual black boxes.
- 2) GHS labels: on the bottom of the right-hand panel of the label, locate the Lot Number. Directly to the left will be a string of control characters, followed by a single letter. For GHS labels, the string of characters will end in "GHS:"

Label in ANSI Format

CAUTION!
MAY BE HARMFUL IF SWALLOWED
MAY CAUSE EYE AND SKIN IRRITATION
MAY AFFECT BEHAVIOR AND
METABOLISM

Do not taste or swallow. Avoid contact with eyes, skin and clothing. Avoid breathing mist or vapor. Avoid prolonged or repeated exposure. Use with adequate ventilation. Wash thoroughly after handling.

FIRST AID: In case of contact, flush affected area with plenty of water for at least 15 minutes. Remove contaminated clothing and/or jewelry. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. If irritation persists, call a physician.

KEEP FROM CHILDREN



BE159 SIZ SY
Benzyl Benzoate
(Benzoic Acid
Phenylmethyl Ester)
U.S.P.
CAS 120-51-4

CAUTION: For manufacturing, processing or repacking. Read and understand the label and Material Safety Data Sheet (MSDS) prior to use.
For chemical emergency, call (800)424-9300.
www.SpectrumChemical.com

$C_{11}H_{12}O_2$ F.W. 212.24

Assay 99.0-100.5%
Specific Gravity $\pm 25^{\circ}C$ 1.116-1.120
Congealing Temperature Min. 18.0°C
Refractive Index $\pm 20^{\circ}C$ 1.565-1.570
Acidity To pass test

MAXIMUM LIMITS
Aldehyde 0.05%
Residual Solvents To pass test

FLUSHED WITH NITROGEN

Lot No. XQ###

SPECTRUM CHEMICAL MFG. CORP. Gardena, CA 90248 • New Brunswick, NJ 08901

CORPORATE OFFICES

14422 South San Pedro Street

Gardena, California 90248

PHONE 310.516.8000

FAX 310.516.9843

Label in GHS Format

WARNING!

- May irritate or sensitize • May cause central nervous system effects based on animal data
- Do not breathe vapors • Wear protective gloves
- After handling
- WASH AND DRY THOROUGHLY • Wash your face and hands after handling
- PERSON CHARTER or other physician
- If you feel unwell, consult your doctor

KEEP FROM CHILDREN

SPECTRUM

BE159 SIZ SY

Benzyl Benzoate

(Benzoic Acid Phenylmethyl Ester)

U.S.P.

CAS 129-51-4

CAUTION: For industrial use only. Do not use for food or feed. Do not use for medical purposes. Do not use for cosmetic purposes. Do not use for pharmaceutical purposes. Do not use for food or feed. Do not use for medical purposes. Do not use for cosmetic purposes. Do not use for pharmaceutical purposes.

Chemical Emergency: (800) 424-9086

www.SpectrumChemical.com

$C_{15}H_{14}O_2$ F.W. 212.24

Assay 99.0-100.5%

Specific Gravity @ 25°C 1.115-1.120

Freezing Temperature Min. 18.0°C

Refractive Index @ 20°C 1.568-1.570

Acidity To pass test

MAXIMUM LIMITS

Aldehyde 0.05%

Residual Solvents To pass test

LIGHT SENSITIVE: Keep tightly closed in light-resistant containers.

FLUSHED WITH NITROGEN

Lot No. XQ####

¹ American National Standards Institute

² Globally Harmonized System for Hazard Communication

Sincerely,

Regulatory Affairs

MATERIAL SAFETY DATA SHEET

NFPA	HMIS	Personal Protective Equipment
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Health Hazard	2
Fire Hazard	3
Reactivity	0



See Section 8.

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product code:	ET105
Product Name:	ETHYL ACETATE, NF
Chemical Name:	Acetic acid, ethyl ester
Synonyms:	Acetic ether Acetidin Acetoxyethane Ethyl acetic ester Ethyl ethanoate Vinegar naphtha Ethyle (acetate d') (French) Acétate d'éthyle (French) Acétate éthylique (French) Acetato de etilo (Spanish)
Recommended use:	Solvent. Perfuming agent. In photographic films and plates.
CAS #:	141-78-6
RTECS #	AH5425000
Formula:	C4-H8-O2
CI#:	Not available
Supplier:	Spectrum Chemicals and Laboratory Products, Inc. 14422 South San Pedro St. Gardena, CA 90248 (310) 516-8000
Order Online At:	https://www.spectrumchemical.com
Emergency Telephone Number:	CHEMTREC: 1-800-424-9300
Contact Person:	Regina Wachenheim (East Coast)
Contact Person:	Martin LaBenz (West Coast)

2. HAZARDS IDENTIFICATION

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

DANGER FLAMMABLE!

WARNING! IRRITANT

Irritating to eyes

Irritating to respiratory system

May cause skin irritation

Odor:
Ether-like. Fruity.

Physical state:
Liquid.

Appearance:
No information available

Color:
Clear. Colorless.

OSHA Regulatory Status

This material is considered hazardous by the OSHA Hazard Communication Standard (29 CFR 1910.1200)

POTENTIAL HEALTH EFFECTS

Principal Routes of Exposure:

Ingestion. Skin. Eyes. Inhalation.

Acute Potential Health Effects:

Skin Contact:

May cause skin irritation. It may be absorbed through the skin. If absorbed through skin it may cause systemic effects.

Eye Contact:

Causes eye irritation. Causes conjunctival irritation.

Inhalation:

Irritating to respiratory system. May affect respiration. May cause pulmonary edema. Inhalation of vapors may cause dizziness or suffocation. May cause central nervous system effects. It may affect the blood. May affect the liver. May affect the urinary system. May cause cardiovascular effects.

Ingestion:

May cause digestive (gastrointestinal) tract irritation. May cause nausea and vomiting. Aspiration hazard. Aspiration into the lungs may cause chemical pneumonitis. May cause central nervous system effects. May affect the liver. May cause metabolic acidosis. May affect the cardiovascular system.

Chronic Potential Health Effects:

Component
Ethyl Acetate
141-78-6 (100)

Carcinogen Status:

No information available

Target Organs:

Skin. Central nervous system. Liver. Kidneys. Lungs. Respiratory system. Heart.

Mutagenic Effects:

May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects
Animal experiments showed mutagenic effects

Teratogenic Effects:

No information available

Aggravated Medical Conditions: No information available

See Section 11 for additional Toxicological Information

POTENTIAL ENVIRONMENTAL EFFECTS

No information available

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %
Ethyl Acetate	141-78-6	100

4. FIRST AID MEASURES

General Advice:	Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126).
Skin Contact:	Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.
Eye Contact:	Flush eye with water for 15 minutes. Get medical attention.
Inhalation:	Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.
Ingestion:	Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.
Notes to Physician:	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Flammable Properties

Flashpoint (°C/°F):	-4.4 °C/24 °F 7.2 °C/44.96°F
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Flash Point Tested according to:

Closed cup
Open cup

Lower Explosion Limit (%):	2-2.2%
Upper Explosion Limit (%):	9-11.5%

Autoignition Temperature (°C/°F):	426.6 °C/800 °F
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Suitable Extinguishing Media:	Carbon dioxide (CO ₂). Dry chemical. Alcohol-resistant foam. Water spray.
Unsuitable Extinguishing Media:	Do not use a solid (straight) water stream as it may scatter and spread fire.
Hazardous Combustion Products:	Carbon monoxide; Carbon dioxide
Specific hazards:	Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

Specific Methods:

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:

Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental Precautions:

Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods for Cleaning Up:

Absorb spill with inert material (e.g. vermiculite, dry sand or earth), then place in a suitable chemical waste container. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Handling**Technical Measures/Precautions:**

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Storage**Technical Measures/Storage Conditions:**

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Moisture sensitive. Protect from moisture. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents. Acids. Bases. Chlorosulfonic acid. Oleum. Potassium t-butoxide.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Personal Protective Equipment

- Eye protection:** Goggles. Safety glasses with side-shields.
- Skin and body protection:** Chemical resistant apron. Long sleeved clothing. Gloves.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke.
Wash hands before breaks and immediately after handling the product.

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ethyl Acetate - 141-78-6	400 ppm TWA 1400 mg/m ³ TWA	400 ppm TWA 1400 mg/m ³ TWA	400 ppm TWA	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Ethyl Acetate 141-78-6	400 ppm TWA 1440 mg/m ³ TWA	150 ppm TWA	400 ppm TWA	400 ppm TWAEV 1440 mg/m ³ TWAEV

Australia and Mexico

Components	Australia	Mexico
Ethyl Acetate 141-78-6	400 ppm STEL 1440 mg/m ³ STEL 200 ppm TWA 720 mg/m ³ TWA	400 ppm TWA 1400 mg/m ³ TWA

9. PHYSICAL AND CHEMICAL PROPERTIES

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid.	Appearance: No information available	Color: Clear. Colorless.
Odor: Ether-like. Fruity.	Taste Bittersweet. Wine-like. Burning.	Molecular/Formula weight: 88.11
Flash point (°C): -4.4	Lower Explosion Limit (%): 2-2.2%	Upper Explosion Limit (%): 9-11.5%
Autoignition Temperature (°C/°F): 426.6 °C/800 °F	Melting point/range(°C/°F): -83 °C/-117.4 °F	Boiling point/range(°C/°F): 77 °C/170.6 °F
pH: No information available	Specific gravity: 9.02 @ 20 °C 0.894-0.898 @ 25 °C	Density (g/cm3): No information available
Decomposition temperature(°C/°F): No information available	Bulk density: No information available	Vapor pressure @ 20°C (kPa): 9.71-10.11 (12.4 kPa @ 25 °C)
Evaporation rate: 6.2 (butyl acetate = 1)	Vapor density: 3.04	VOC content (g/L): No information available
Odor threshold (ppm): 1.0-4.0	Partition coefficient (n-octanol/water): 0.73	Miscibility: Miscible with Chloroform
Solubility: Soluble in Ether Soluble in alcohol Soluble in Acetone Soluble in Benzene Very soluble in water Solubility in Water: 64-80 g/L @ 25 °C; 83.1 g/L @ 20 °C		

10. STABILITY AND REACTIVITY

Stability:	Stable at normal conditions
Conditions to avoid:	Heat. Incompatible materials. Moisture sensitive. Exposure to moist air. Slowly decomposed by moisture.
Incompatible Materials:	Oxidizing agents. Acids. Bases. Chlorosulfonic acid. Oleum. Potassium t-butoxide.
Hazardous decomposition products:	Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.
Possibility of Hazardous Reactions:	It can react vigorously with Chlorosulfonic acid, Oleum, Potassium-tert-Butoxide Explosive reaction with lithium tetrahydroaluminate
Polymerization:	Hazardous polymerisation does not occur
Corrosivity:	No information available
Special Remarks on Corrosivity:	No information available

11. TOXICOLOGICAL INFORMATION

Acute Toxicity

Component Information

Ethyl Acetate - 141-78-6

LD50/oral/rat = 5620 mg/kg Oral LD50 Rat

LD50/oral/mouse = 4100 mg/kg

LD50/dermal/rat = No information available

LD50/dermal/rabbit = 20 mL/kg Dermal LD50Rabbit

>18000 m/kg

LC50/inhalation/rat = 16000 ppm 6 hr

4000 ppm 4 hr

LC50/inhalation/mouse = 45000 mg/m³ 2hr

1500 ppm 4hr

Other LD50 or LC50information = 4935 mg/kg LD50 Oral Rabbit

5500 mg/kg LD50 Oral Guinea Pig

Product Information

LC50/inhalation/rat 4000 ppm 4 hr

16000 ppm 6 hr

LC50/Inhalation/mouse 1500 ppm 4 hr

45000 mg/m³ 2 hr

LD50/dermal/rabbit >18000mg/kg

LD50/dermal/rat No information available

LD50/oral/mouse = 4100mg/kg

LD50/oral/rat = 5620mg/kg

Local Effects

Skin irritation:

May cause skin irritation.

Eye irritation:

Causes eye irritation. Causes conjunctival irritation.

Inhalation:

Irritating to respiratory system

Inhalation of high concentrations of vapor may cause anesthetic effects

Inhalation of high concentrations of vapors may cause dizziness or suffocation

May affect respiration (respiratory depression)

It may cause pulmonary edema

It may affect the liver

May affect the kidneys

Symptoms may include sore throat, shortness of breath, coughing, wheezing, inflammation of the nasal passages

May affect behavior/central nervous system (dizziness, loss of coordination, coma)

May affect behavior/central nervous system (somnolence)

Ingestion:

Causes digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. May cause flushing and sweating. Aspiration hazard if swallowed.

Aspiration into the lungs can cause chemical pneumonitis. May cause metabolic

acidosis. May affect the cardiovascular system (tachycardia). May affect the

cardiovascular system (hypotension). May affect behavior/central nervous system

(somnolence, convulsions). May affect behavior/central nervous system (ataxia). It

may affect behavior/central nervous system (boastfulness, talkativeness, belligerency, irritability, slurred speech, diplopia, vertigo, drowsiness, coma).

Sensitization:

No information available

Chronic Toxicity

Chronic Toxicity

Prolonged or repeated skin contact may cause dermatitis and defatting, dryness, and cracking of the skin. Prolonged or repeated ingestion may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may produce changes in pulmonary function and/or chronic bronchitis. Repeated exposure may cause bronchitis to develop with cough, phlegm, and /or shortness of breath. Prolonged or repeated inhalation may affect the blood (anemia, leukocytosis, reduced platelet count). Prolonged or repeated inhalation may affect the blood (changes in red blood cell count). Prolonged or repeated inhalation may cause central nervous system effects. Prolonged or repeated inhalation may cause loss of appetite. Prolonged or repeated exposure may affect the heart.

Carcinogenic effects:

Not considered carcinogenic

Components	NTP	IARC	OSHA HCS - Carcinogens	ACGIH - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Ethyl Acetate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

Mutagenic Effects:

May affect genetic material
Experiments with bacteria and/or yeast have shown mutagenic effects
Animal experiments showed mutagenic effects

Reproductive Effects:

May cause adverse reproductive effects based on animal data. Experiments have shown reproductive toxicity effects (lower testicular and prostate weights, and reduced number of spermatozoa) in male rats. It has not been shown to affect reproduction in humans.

Teratogenic Effects:

No information available

Target Organs:

Skin. Central nervous system. Liver. Kidneys. Lungs. Respiratory system. Heart.

12. ECOLOGICAL INFORMATION

ECOTOXICITY

Toxicity to terrestrial and aquatic plants and animals: Information given is based on data on the components and the ecotoxicology of similar products

Ecotoxicity effects:

Aquatic environment.

Aquatic toxicity:

Ethyl Acetate - 141-78-6

Freshwater Algae Data:

3300 mg/L EC50 *Desmodesmus subspicatus* 48 h

Freshwater Fish Species Data:

220-250 mg/L LC50 *Pimephales promelas* 96 h flow-through 1

352-500 mg/L LC50 *Oncorhynchus mykiss* 96 h semi-static 1

484 mg/L LC50 *Oncorhynchus mykiss* 96 h flow-through 1

Water Flea Data:

560 mg/L EC50 *Daphnia magna* 48 h

Mobility:

No information available

Persistence and degradability:

No information available

Bioaccumulative potential:

No information available

13. DISPOSAL CONSIDERATIONS

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ethyl Acetate	None	None	None	U112 Ignitable waste

14. TRANSPORT INFORMATION**DOT**

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Packing Group: II
Subsidiary Risk: Not applicable
Marine Pollutant: No data available
ERG No: 129
DOT RQ (lbs): No information available
Symbol(s): R5

TDG (Canada)

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
Description: No information available

ADR

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
Classification Code: No information available
Description: No information available
CEFIC Tremcard No: No information available

IMO / IMDG

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
Description: No information available
IMDG Page: No information available
Marine Pollutant: No information available
EMS: F-E
MFAG: No information available
Maximum Quantity: No information available

RID

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Packing Group: II

Subsidiary Risk: 3
Classification Code: No information available
Description: No information available

ICAO

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
Description: No information available

IATA

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Packing Group: II
Subsidiary Risk: No information available
ERG Code: 3L
Description: No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	Philippines (PICCS)	KOREA KECL	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
<i>Ethyl Acetate</i>	Present	Present	Present KE-00047	Present (2)-726	Present	Present	Present 205-500-4

U.S. Regulations

Ethyl Acetate

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
RI RTK - Hazardous Substances List: Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
 5000 lb RQ
 1 lb RQ
Louisiana Reportable Quantity List for Pollutants: 5000lbfinal RQ
 2270kgfinal RQ
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 182.60

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
<i>Ethyl Acetate</i>	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Ethyl Acetate	5000 lb final RQ 2270 kg final RQ	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ethyl Acetate	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

B2 Flammable liquid

Ethyl Acetate

B2

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Ethyl Acetate	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Ethyl Acetate	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ethyl Acetate	Not listed	Not listed

EU Classification

R-phrases(s)

R11 - Highly flammable.

R36 - Irritating to eyes.

R66 - Repeated exposure may cause skin dryness or cracking.

R67 - Vapors may cause drowsiness and dizziness.

S -phrase(s)

S16 - Keep away from sources of ignition - No smoking.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S33 - Take precautionary measures against static discharges.

Components	Classification	Concentration Limits:	Safety Phrases
Ethyl Acetate	F; R11 Xi; R36 R66 R67	No information	S2 S16 S26 S33

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

F - Highly flammable.

Xi - Irritant.

Xi



F



16. OTHER INFORMATION

The MSDS format complies with ANSI Z400.1/Z129.1-2010 standards.

Preparation Date: 02-May-2014

Reason for revision: Not applicable

Prepared by: Sonia Owen

Literature reference: No information available

All chemicals may pose unknown hazards and should be used with caution. This Material Safety Data Sheet (MSDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this MSDS. The physical properties reported in this MSDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this MSDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

SAFETY DATA SHEET

Preparation Date: 5/1/2014

Revision Date: 5/1/2014

Revision Number: G1

1. IDENTIFICATION

Product identifier

Product code: ET105
Product Name: ETHYL ACETATE, NF

Other means of identification

Synonyms: Acetic ether
Acetidin
Acetoxyethane
Ethyl acetic ester
Ethyl ethanoate
Vinegar naphtha
Ethyle (acetate d') (French)
Acétate d'éthyle (French)
Acétate éthylique (French)
Acetato de etilo (Spanish)
CAS #: 141-78-6
RTECS # AH5425000
CI#: Not available

Recommended use of the chemical and restrictions on use

Recommended use: Solvent. Perfuming agent. In photographic films and plates.
Uses advised against No information available

Supplier: Spectrum Chemicals and Laboratory Products, Inc.
14422 South San Pedro St.
Gardena, CA 90248
(310) 516-8000

Order Online At: <https://www.spectrumchemical.com>

Emergency telephone number Chemtrec 1-800-424-9300
Contact Person: Martin LaBenz (West Coast)
Contact Person: Regina Wachenheim (East Coast)

2. HAZARDS IDENTIFICATION

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Serious eye damage/eye irritation	Category 2A
Specific target organ toxicity (single exposure)	Category 3
Flammable liquids	Category 2

Label elements

Danger

Hazard statements

Causes serious eye irritation

May cause respiratory irritation. May cause drowsiness or dizziness

Highly flammable liquid and vapor



Hazards not otherwise classified (HNOC)

Not Applicable

Other hazards

Not available

Precautionary Statements - Prevention

Wash face, hands and any exposed skin thoroughly after handling

Avoid breathing dust/fume/gas/mist/vapors/spray

Use only outdoors or in a well-ventilated area

Keep away from heat/sparks/open flames/hot surfaces. — No smoking

Keep container tightly closed

Ground/bond container and receiving equipment

Use explosion-proof electrical/ventilating/lighting/./? /equipment

Use only non-sparking tools

Take precautionary measures against static discharge

Wear protective gloves/protective clothing/eye protection/face protection

Keep cool

In case of fire: Use CO2, dry chemical, or foam to extinguish.

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.

IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/physician if you feel unwell.

Precautionary Statements - Storage

Store in a well-ventilated place. Keep container tightly closed

Store locked up

Precautionary Statements - Disposal

Dispose of contents/container to an approved waste disposal plant

3. COMPOSITION/INFORMATION ON INGREDIENTS

Components	CAS-No.	Weight %	Trade Secret
Ethyl Acetate 141-78-6	141-78-6	100	*

4. FIRST AID MEASURES

First aid measures

General Advice:

Poison information centres in each State capital city can provide additional assistance for scheduled poisons (13 1126).

Skin Contact:

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes. Get medical attention if irritation develops.

Eye Contact:

Flush eye with water for 15 minutes. Get medical attention.

Inhalation:

Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Get medical attention.

Ingestion:

Do not induce vomiting without medical advice. Never give anything by mouth to an unconscious person. Consult a physician if necessary.

Most important symptoms and effects, both acute and delayed

Symptoms

Causes eye irritation. Coughing and wheezing. Dyspnea (Difficulty breathing and shortness of breath). Central nervous system effects. Dizziness. Drowsiness. Narcosis. May cause cardiovascular effects. Causes digestive (gastrointestinal) tract irritation. May cause nausea and vomiting. May cause metabolic acidosis. Sweating and flushing of skin.

Indication of any immediate medical attention and special treatment needed

Notes to Physician:

Treat symptomatically

Protection of first-aiders

First-Aid Providers: Avoid exposure to blood or body fluids. Wear gloves and other necessary protective clothing. Dispose of contaminated clothing and equipment as bio-hazardous waste

5. FIRE-FIGHTING MEASURES

Extinguishing Media

Suitable Extinguishing Media:

Carbon dioxide (CO₂). Dry chemical. Alcohol-resistant foam. Water spray.

Unsuitable Extinguishing Media:

Do not use a solid (straight) water stream as it may scatter and spread fire.

Specific hazards arising from the chemical

Hazardous Combustion Products:

Carbon monoxide; Carbon dioxide

Specific hazards:

Flammable. May be ignited by heat, sparks or flames. Container explosion may occur under fire conditions or when heated. Vapor may travel considerable distance to source of ignition and flash back. Vapors may form explosive mixtures with air. Most vapors are heavier than air. They will spread along the ground and collect in low or confined areas (sewers, basements, tanks). Fire may produce irritating, corrosive and/or toxic gases.

Special Protective Actions for Firefighters

Specific Methods:

Water mist may be used to cool closed containers. For larger fires, use water spray or fog. Cool containers with flooding quantities of water until well after fire is out.

Special Protective Equipment for Firefighters:

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Personal Precautions: Ensure adequate ventilation. Keep people away from and upwind of spill/leak. Avoid contact with skin, eyes and clothing. Use personal protective equipment. Remove all sources of ignition. Pay attention to flashback. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use spark-proof tools and explosion-proof equipment. In case of large spill, water spray or vapor suppressing foam may be used to reduce vapors, but may not prevent ignition in closed spaces.

Environmental precautions Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. In case of large spill, dike if needed. Dike far ahead of liquid spill for later disposal.

Methods and material for containment and cleaning up

Methods for containment Stop leak if you can do it without risk. Absorb spill with inert material (e.g. vermiculite, dry sand or earth).

Methods for cleaning up Use appropriate tools to put the spilled material in a suitable chemical waste disposal container. Use only non-sparking tools. Clean contaminated surface thoroughly.

7. HANDLING AND STORAGE

Precautions for safe handling

Technical Measures/Precautions:

Provide sufficient air exchange and/or exhaust in work rooms. Remove all sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded. Keep away from incompatible materials.

Safe Handling Advice:

Wear personal protective equipment. Use only in well-ventilated areas. Avoid contact with skin, eyes and clothing. Keep away from heat and sources of ignition. Do not breathe vapors or spray mist. Do not ingest. When using do not smoke. Handle in accordance with good industrial hygiene and safety practice.

Conditions for safe storage, including any incompatibilities

Technical Measures/Storage Conditions:

Keep container tightly closed in a dry and well-ventilated place. Store at room temperature in the original container. Keep away from heat and sources of ignition. Store in a segregated and approved area. Moisture sensitive. Protect from moisture. Store away from incompatible materials.

Incompatible Materials:

Oxidizing agents. Acids. Bases. Chlorosulfonic acid. Oleum. Potassium t-butoxide.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

National occupational exposure limits

United States

Components	OSHA	NIOSH	ACGIH	AIHA WHEEL
Ethyl Acetate - 141-78-6	400 ppm TWA 1400 mg/m ³ TWA	400 ppm TWA 1400 mg/m ³ TWA	400 ppm TWA	None

Canada

Components	Alberta	British Columbia	Ontario	Quebec
Ethyl Acetate - 141-78-6	400 ppm TWA 1440 mg/m ³ TWA	150 ppm TWA	400 ppm TWA	400 ppm TWAEV 1440 mg/m ³ TWAEV

Australia and Mexico

Components	Australia	Mexico
Ethyl Acetate 141-78-6	400 ppm STEL 1440 mg/m ³ STEL 200 ppm TWA 720 mg/m ³ TWA	400 ppm TWA 1400 mg/m ³ TWA

Appropriate engineering controls

Engineering measures to reduce exposure:

Ensure adequate ventilation. Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors and mist below their respective threshold limit value.

Individual protection measures, such as personal protective equipment

Personal Protective Equipment

- Eye protection:** Goggles. Safety glasses with side-shields.
- Skin and body protection:** Chemical resistant apron. Long sleeved clothing. Gloves.
- Respiratory protection:** Vapor respirator. Be sure to use an approved/certified respirator or equivalent.
- Hygiene measures:** Avoid contact with skin, eyes and clothing. When using, do not eat, drink or smoke. Wash hands before breaks and immediately after handling the product.

9. PHYSICAL AND CHEMICAL PROPERTIES

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Liquid.	Appearance: No information available	Color: Clear. Colorless.
Odor: Ether-like. Fruity.	Taste Bittersweet. Wine-like. Burning.	Formula: C4-H8-O2
Molecular/Formula weight: 88.11	Flash point (°C): -4.4	Flashpoint (°C/°F): -4.4 °C/24 °F 7.2 °C/44.96°F
Flash Point Tested according to: Closed cup Open cup	Lower Explosion Limit (%): 2-2.2%	Upper Explosion Limit (%): 9-11.5%
Autoignition Temperature (°C/°F): 426.6 °C/800 °F	pH: No information available	Melting point/range(°C/°F): -83 °C/-117.4 °F
Boiling point/range(°C/°F): 77 °C/170.6 °F	Decomposition temperature(°C/°F): No information available	Specific gravity: 9.02 @ 20 °C 0.894-0.898 @ 25 °C
Density (g/cm3): No information available	Bulk density: No information available	Vapor pressure @ 20°C (kPa): 9.71-10.11 (12.4 kPa @ 25 °C)
Evaporation rate: 6.2 (butyl acetate = 1)	Vapor density: 3.04	VOC content (g/L): No information available
Odor threshold (ppm): 1.0-4.0	Partition coefficient (n-octanol/water): 0.73	Viscosity: No information available
Miscibility: Miscible with Chloroform	Solubility: Soluble in Ether Soluble in alcohol Soluble in Acetone Soluble in Benzene Very soluble in water Solubility in Water: 64-80 g/L @ 25 °C; 83.1 g/L @ 20 °C	

10. STABILITY AND REACTIVITY

Reactivity

Reactive with oxidizing agents
Reacts with bases
Reactive with acids

Chemical stability

Stability: Stable at normal conditions

Possibility of Hazardous Reactions: Hazardous polymerization does not occur

Conditions to avoid: Heat. Incompatible materials. Moisture sensitive. Exposure to moist air. Slowly decomposed by moisture.

Incompatible Materials: Oxidizing agents. Acids. Bases. Chlorosulfonic acid. Oleum. Potassium t-butoxide.

Hazardous decomposition products: Carbon monoxide. Carbon dioxide. When heated to decomposition it emits acrid smoke and irritating fumes.

Other Information

Corrosivity: No information available

Special Remarks on Corrosivity: No information available

11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure

Principal Routes of Exposure:

Ingestion. Skin. Eyes. Inhalation.

Acute Toxicity

Component Information

Ethyl Acetate - 141-78-6

LD50/oral/rat = 5620 mg/kg Oral LD50 Rat

LD50/oral/mouse = 4100 mg/kg

LD50/dermal/rabbit = 20 mL/kg Dermal LD50Rabbit
>18000 m/kg

LD50/dermal/rat = No information available

LC50/inhalation/rat = 16000 ppm 6 hr
4000 ppm 4 hr

LC50/inhalation/mouse = 45000 mg/m³ 2hr
1500 ppm 4hr

Other LD50 or LC50information = 4935 mg/kg LD50 Oral Rabbit
5500 mg/kg LD50 Oral Guinea Pig

Product Information

LD50/oral/rat =

VALUE- Acute Tox Oral = 5620mg/kg

LD50/oral/mouse =

Value - Acute Tox Oral = 4100mg/kg

LD50/dermal/rabbit

VALUE-Acute Tox Dermal = >18000mg/kg

LD50/dermal/rat

VALUE -Acute Tox Dermal = No information available

LC50/inhalation/rat

VALUE-Vapor = No information available

VALUE-Gas = 4000ppm (4-hr)

VALUE-Dust/Mist = No information available

LC50/Inhalation/mouse

VALUE-Vapor = No information available

VALUE - Gas = No information available

VALUE - Dust/Mist = No information available

Symptoms

Skin Contact:

May cause skin irritation. It may be absorbed through the skin. If absorbed through skin it may cause systemic effects.

Eye Contact:	Causes eye irritation. Causes conjunctival irritation.
Inhalation	Irritating to respiratory system. Inhalation of high concentrations of vapor may cause anesthetic effects. Inhalation of high concentrations of vapors may cause dizziness or suffocation. It may cause pulmonary edema. It may affect the liver. May affect the kidneys. Symptoms may include sore throat, shortness of breath, coughing, wheezing, inflammation of the nasal passages. May affect behavior/central nervous system (somnolence).
Ingestion	Causes digestive (gastrointestinal) tract irritation. Ingestion may cause nausea, vomiting. May cause flushing and sweating. Aspiration hazard if swallowed. Aspiration into the lungs can cause chemical pneumonitis. May cause metabolic acidosis. May affect the cardiovascular system (tachycardia). May affect the cardiovascular system (hypotension). May affect behavior/central nervous system (somnolence, convulsions). May affect behavior/central nervous system (ataxia). It may affect behavior/central nervous system (boastfulness, talkativeness, belligerency, irritability, slurred speech, diplopia, vertigo, drowsiness, coma).
Aspiration hazard	No information available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Chronic Toxicity	Prolonged or repeated skin contact may cause dermatitis and defatting, dryness, and cracking of the skin. Prolonged or repeated ingestion may affect the liver. Prolonged or repeated inhalation may affect the kidneys. Prolonged or repeated inhalation may affect the liver. Prolonged or repeated inhalation may produce changes in pulmonary function and/or chronic bronchitis. Repeated exposure may cause bronchitis to develop with cough, phlegm, and /or shortness of breath. Prolonged or repeated inhalation may affect the blood (anemia, leukocytosis, reduced platelet count). Prolonged or repeated inhalation may affect the blood (changes in red blood cell count). Prolonged or repeated inhalation may cause central nervous system effects. Prolonged or repeated inhalation may cause loss of appetite. Prolonged or repeated exposure may affect the heart.
Sensitization:	No information available
Mutagenic Effects:	May affect genetic material Experiments with bacteria and/or yeast have shown mutagenic effects Animal experiments showed mutagenic effects
Carcinogenic effects:	Not considered carcinogenic

Components	ACGIH - Carcinogens	IARC	NTP	OSHA HCS - Carcinogens	Australia - Prohibited Carcinogenic Substances	Australia - Notifiable Carcinogenic Substances
Ethyl Acetate	Not listed	Not listed	Not listed	Not listed	Not listed	Not listed

<u>Reproductive toxicity</u>	<u>No data is available</u>
Reproductive Effects:	No information available
Developmental Effects:	No information available
Teratogenic Effects:	No information available

Specific Target Organ Toxicity

STOT - single exposure	respiratory system. central nervous system.
STOT - repeated exposure	No information available
Target Organs:	Skin. Central nervous system. Liver. Kidneys. Lungs. Respiratory system. Heart.

12. ECOLOGICAL INFORMATION

Ecotoxicity

Ecotoxicity effects: Aquatic environment.

Ethyl Acetate - 141-78-6

Freshwater Algae Data: 3300 mg/L EC50 *Desmodesmus subspicatus* 48 h

Freshwater Fish Species Data: 220-250 mg/L LC50 *Pimephales promelas* 96 h flow-through 1
352-500 mg/L LC50 *Oncorhynchus mykiss* 96 h semi-static 1
484 mg/L LC50 *Oncorhynchus mykiss* 96 h flow-through 1

Water Flea Data: 560 mg/L EC50 *Daphnia magna* 48 h

Persistence and degradability: No information available

Bioaccumulative potential: No information available

Mobility: No information available

13. DISPOSAL CONSIDERATIONS

Disposal Methods

Waste from residues / unused products:

Waste must be disposed of in accordance with Federal, State and Local regulation.

Contaminated packaging:

Empty containers should be taken for local recycling, recovery or waste disposal

Components	RCRA - F Series Wastes	RCRA - K Series Wastes	RCRA - P Series Wastes	RCRA - U Series Wastes
Ethyl Acetate	None	None	None	U112 Ignitable waste

14. TRANSPORT INFORMATION

DOT

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Subsidiary Risk: Not applicable
Packing Group: II
Marine Pollutant: No data available
ERG No: 129
DOT RQ (lbs): No information available
Symbol(s): R5

TDG (Canada)

UN-No: UN1173
Proper Shipping Name: Ethyl acetate
Hazard Class: 3
Subsidiary Risk: No information available
Packing Group: II
Description: No information available

14. TRANSPORT INFORMATION

ADR

UN-No:	UN1173
Proper Shipping Name:	Ethyl acetate
Hazard Class:	3
Packing Group:	II
Subsidiary Risk:	No information available
Classification Code:	No information available
Description:	No information available
CEFIC Tremcard No:	No information available

IMO / IMDG

UN-No:	UN1173
Proper Shipping Name:	Ethyl acetate
Hazard Class:	3
Subsidiary Risk:	No information available
Packing Group:	II
Description:	No information available
IMDG Page:	No information available
Marine Pollutant	No information available
EMS:	F-E
MFAG:	No information available
Maximum Quantity:	No information available

RID

UN-No:	UN1173
Proper Shipping Name:	Ethyl acetate
Hazard Class:	3
Subsidiary Risk:	3
Packing Group:	II
Classification Code:	No information available
Description:	No information available

ICAO

UN-No:	UN1173
Proper Shipping Name:	Ethyl acetate
Hazard Class:	3
Subsidiary Risk:	No information available
Packing Group:	II
Description:	No information available

IATA

UN-No:	UN1173
Proper Shipping Name:	Ethyl acetate
Hazard Class:	3
Subsidiary Risk:	No information available
Packing Group:	II
ERG Code:	3L
Description:	No information available

15. REGULATORY INFORMATION

International Inventories

Components	U.S. TSCA	KOREA KECL	Philippines (PICCS)	Japan ENCS	CHINA	Australia (AICS)	EINECS-No.
Ethyl Acetate	Present	Present KE-00047	Present	Present (2)-726	Present	Present	Present 205-500-4

U.S. Regulations

Ethyl Acetate

Massachusetts RTK: Present
New Jersey RTK Hazardous Substance List: Present
New Jersey - Discharge Prevention - List of Hazardous Substances: Present
Pennsylvania RTK: Environmental hazard
Pennsylvania RTK - Environmental Hazard List Present
RI RTK - Hazardous Substances List: Present
Minnesota - Hazardous Substance List: Present
New York Release Reporting - List of Hazardous Substances:
5000 lb RQ
1 lb RQ
Louisiana Reportable Quantity List for Pollutants: 5000lbfinal RQ
2270kgfinal RQ
California Directors List of Hazardous Substances: Present
FDA - Food Additives Generally Recognized as Safe (GRAS): 21 CFR 182.60

California Prop. 65: Safe Drinking Water and Toxic Enforcement Act of 1986.

Chemicals Known to the State of California to Cause Cancer:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Chemicals Known to the State of California to Cause Reproductive Toxicity:

This product does not contain a chemical requiring a warning under California Prop. 65. (See table below)

Components	Carcinogen	Developmental Toxicity	Male Reproductive Toxicity	Female Reproductive Toxicity:
Ethyl Acetate	Not Listed	Not Listed	Not Listed	Not Listed

CERCLA/SARA

Components	CERCLA - Hazardous Substances and their Reportable Quantities	Section 302 Extremely Hazardous Substances and TPQs	Section 302 Extremely Hazardous Substances and RQs	Section 313 - Chemical Category	Section 313 - Reporting <i>de minimis</i>
Ethyl Acetate	5000 lb final RQ 2270 kg final RQ	None	None	None	None

U.S. TSCA

Components	TSCA Section 5(a)2 - Chemicals With Significant New Use Rules (SNURS)	TSCA 8(d) -Health and Safety Reporting
Ethyl Acetate	Not Applicable	Not Applicable

Canada

WHMIS hazard class:

B2 Flammable liquid

Ethyl Acetate

B2

Canada Controlled Products Regulation:

This product has been classified according to the hazard criteria of the CPR (Controlled Products Regulation) and the MSDS contains all of the information required by the CPR.

Components	WHMIS Ingredient Disclosure List -
Ethyl Acetate	1 %

Inventory

Components	Canada (DSL)	Canada (NDSL)
Ethyl Acetate	Present	Not Listed

Components	CEPA Schedule I - Toxic Substances	CEPA - 2010 Greenhouse Gases Subject to Mandatory Reporting
Ethyl Acetate	Not listed	Not listed

EU Classification

R-phrase(s)

R11 - Highly flammable.

R36 - Irritating to eyes.

R66 - Repeated exposure may cause skin dryness or cracking.

R67 - Vapors may cause drowsiness and dizziness.

S -phrase(s)

S16 - Keep away from sources of ignition - No smoking.

S26 - In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S33 - Take precautionary measures against static discharges.

Components	Classification	Concentration Limits:	Safety Phrases
Ethyl Acetate	F; R11 Xi; R36 R66 R67	No information	S2 S16 S26 S33

The product is classified in accordance with Annex VI to Directive 67/548/EEC

Indication of danger:

F - Highly flammable.

Xi - Irritant.



16. OTHER INFORMATION

16. OTHER INFORMATION**NFPA****HMIS****Personal Protective Equipment**

Health Hazard	2
Fire Hazard	3
Reactivity	0

**See Section 8.**

Preparation Date: 5/1/2014
Revision Date: 5/1/2014
Prepared by: Sonia Owen

Disclaimer:

All chemicals may pose unknown hazards and should be used with caution. This Safety Data Sheet (SDS) applies only to the material as packaged. If this product is combined with other materials, deteriorates, or becomes contaminated, it may pose hazards not mentioned in this SDS. The physical properties reported in this SDS are obtained from the literature and do not constitute product specifications. Information contained herein does not constitute a warranty, whether expressed or implied, as to the safety, merchantability or fitness of the goods for a particular purpose. Spectrum Chemicals & Laboratory Products, Inc. assumes no responsibility for results obtained or for incidental or consequential damages, including lost profits, arising from the use of these data. No warranty against infringement of any patent, copyright or trademark is made or implied. It shall be the user's responsibility to develop proper methods of handling and personal protection based on the actual conditions of use. While this SDS is based on technical data judged to be reliable, Spectrum assumes no responsibility for the completeness or accuracy of the information contained herein.

End of Material Safety Data Sheet