

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: Reagent Ethanol

Product Number: HS-300

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]

H225 - Flammable Liquids (Category 2)
H302 - Acute Toxicity-Oral (Category 4)
H371 - Specific Target Organ Toxicity Following Single Exposure (Category 2)

2.2 Label Elements

GHS LABEL ELEMENTS AND CLASSIFICATION

GHS Label Elements



DANGER

H225 - Highly flammable liquid and vapor.
H302 - Harmful if swallowed
H371 - May cause damage to organs.
P210 - Keep away from heat/sparks/open flames/hot surfaces---no smoking.
P260 - Do not breathe dust/fumes/gas/mist/vapors/spray.

2.3 Other Hazards

None found.

SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

3.2 Mixture

Chemical Names/Description

95% Ethanol 5% Methanol

Component List

Component	% Comp.	CAS #	EC #	1278/2008
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				Classification
Methanol	5	67-56-1	200-659-6	H225, H301, H311, H331, H371
Ethanol	95	64-17-5	200-578-6	H225, H319

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

Induce vomiting immediately as directed by medical personnel. Never give anything by mouth to an unconscious person. Call a physician.

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

Methanol:

Irritation of the respiratory tract and mucous membranes. For central nervous system symptoms which may occur due to exposure by inhalation, see Ingestion.

Ethanol:

Cough, drowsiness, headache and fatigue.

Ingestion

Methanol:

Effects may include excitation, euphoria, headache, dizziness, drowsiness, blurred vision, fatigue, tremors, convulsions, loss of consciousness, coma, respiratory arrest and death.

Ethanol:

Burning sensation, confusion, dizziness, headache and unconsciousness.

Skin

Methanol:

Exposure may cause symptoms similar to those listed under Ingestion.

Ethanol:

Dryness.

Eyes

Methanol:

Irritation, redness, pain, and inflammation.

Ethanol:

Redness, pain and burning.

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 carbon monoxide, carbon dioxide, and hydrocarbons.

Hazardous Decomposition Products

Carbon dioxide and carbon monoxide may form when heated to decomposition.

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 (soda ash) 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. Isolate from incompatible materials (section 10).

Incompatibles

Methanol:

Acetyl bromide, calcium carbide, chlorine, chromic anhydride, cyanuric chloride, dichloromethane, diethyl zinc, lead perchlorate, magnesium, metals, strong oxidizers, perchloric acid, phosphorous trioxide, potassium, sodium hypochlorite, sulfuric acid and zinc.

Ethanol:

Strong oxidants, silver salts, acid chlorides, alkali metals, hydrazine, and many other substances.

7.3 Specific End Uses

Investigational research by professional users

SECTION 8 - EXPOSURE CONTROLS/PERSONAL PRECAUTIONS

8.1 Control Parameters

Component: Methanol

ACGIH Threshold Limit Value (TLV): 200 ppm

OSHA Permissible Exposure Limit (PEL): None established

Component: Ethanol

ACGIH Threshold Limit Value (TLV): 1000 ppm

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, airtight 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 liquid	b. Odor	None
c. Odor Threshold	N.A.	d. pH	N.A.
e. Melting/Freezing Point (°C)	No Information	f. Boiling point (°C)	77

g. Flash Point (°C)	13	h. Evaporation Rate	3.3
i. Flammability	Combustible	j. Upper/Lower Flammability or Explosive Limits	lcl: 3.3; uel: 19.0
k. Vapor Pressure	45 @ 20C	l. Vapor Density (Air = 1)	1.6
m. Relative Density	0.79 @ 20C/4C	n. Water Solubility	Appreciable (> 10%)
o. Partition Coefficient n-octanol/water	log Kow -0.35	p. Autoignition Temperature (°C)	463
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	No data available.
s. Explosive Properties	combustible liquid and vapor	t. Oxidizing Properties	Not an oxidizer

SECTION 10 - STABILITY AND REACTIVITY

10.1 Reactivity

Combustible. Not reactive under normal conditions of use.

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, flames, ignition sources and incompatibles.

10.5 Incompatible Materials

Methanol:

Acetyl bromide, calcium carbide, chlorine, chromic anhydride, cyanuric chloride, dichloromethane, diethyl zinc, lead perchlorate, magnesium, metals, strong oxidizers, perchloric acid, phosphorous trioxide, potassium, sodium hypochlorite, sulfuric acid and zinc.

Ethanol:

Strong oxidants, silver salts, acid chlorides, alkali metals, hydrazine, and many other substances.

10.6 Hazardous Decomposition Products

Carbon dioxide and carbon monoxide may form when heated to decomposition.

SECTION 11 - TOXICOLOGICAL INFORMATION

Product LD50 Values

Oral Rat LD50 (mg/kg)

thyl alcohol: oral rat LD50= 7060; Methyl alcohol: oral rat LD50= 5628

Dermal Rabbit LD50 (mg/kg)

Mehanol skin rabbit LD50= 15800

Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Methanol	No	No	None
Ethanol	No	No	None

Potential Health Effects

Inhalation

Methanol

May irritate the respiratory tract and mucuous membranes. Exposure may cause central nervous system symptoms similar to those listed under Ingestion.

Ethanol

Can cause irritation to the lungs and upper respiratory tract. May cause headache or fatigue.

Ingestion

Methanol

Primary toxic effects are metabolic acidosis and visual system damage. Visual system damage may progress from visual blurring to complete blindness. May cause harmful central nervous system effects which may be delayed.

Ethanol

May cause irritation or central nervous system effects if swallowed.

Skin

Methanol

Absorption from prolonged or massive skin contact may cause poisoning. Repeated or prolonged contact may result in defatting, redness,

itching, inflammation, cracking and possible secondary infection. Exposure may cause symptoms similar to those listed under ingestion.

Ethanol

May cause drying or irritation to the skin.

Eyes

Methanol

Exposure to liquid, vapors, fumes or mists may cause irritation. Direct contact may cause irritation, pain, corneal inflammation and possible corneal damage.

Ethanol

May cause irritation to the eyes.

Carcinogenicity

Methanol

This component is not listed as a carcinogen by NTP or IARC.

Ethanol

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

Mutagenicity

Methanol

No information available.

Ethanol

No information available.

Reproductive Toxicity

Methanol

Possible reproductive hazard.

Ethanol

Consumption during pregnancy may adversely affect the unborn child.

Teratogenic Effects

Methanol

No information available.

Ethanol

No information available.

Routes of Entry

Methanol

Inhalation, ingestion, or skin contact.

Ethanol

Inhalation, ingestion, skin contact.

Target Organ Statement

Methanol

Chronic intoxication may cause degenerative changes in liver, kidneys, brain, gastrointestinal tract, and heart muscle. Persons with pre-existing liver impairment, skin and respiratory disorders may be at an increased risk from exposure.

Ethanol

Persons with pre-existing skin disorders or eye problems or impaired liver or kidney function may be more susceptible to the effects of the substance.

SECTION 12 - ECOLOGICAL INFORMATION

12.1 Toxicity

COMPONENT: Methanol

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96hr, bluegill) 15400 mg/L	EC50 (48 hr, daphnia) > 10000 mg/L	EC50 (96 hr) 22000 mg/L	IC50 (3hr) > 1000 mg/L
	Birds	Arthropods	Plants	Microorganisms
Terrestrial Environment Toxicity (ppm unless otherwise noted)	IC50 (3 day, sativa) 41000 mg/L	No data	No data	No data

COMPONENT: Ethanol

	Vertebrates	Invertebrates	Algae	Microorganisms
Aquatic Toxicity (ppm unless otherwise noted)	LC50 (96 hour, fathead minnow) 14g/L	EC50 (48hr, daphnia) 5g/L	EC50 (72hrs) 275mg/L	IC50 >1g/L
	Birds	Arthropods	Plants	Microorganisms

Terrestrial Environment Toxicity
(ppm unless otherwise noted)

No data

No data

EC50 155ppm vapor

No data

12.2 Persistence and Degradability

Methanol

Readily biodegradable (95% elimination in 20 days)

Ethanol

Readily biodegradable (95% degradation in 15 days)

12.3 Bioaccumulative Potential

Methanol

BCF<10

Ethanol

No data

12.4 Mobility in Soil

Methanol

Koc <1

Ethanol

No data

12.5 Results of PBT and vPvB Assessment

Methanol

not PBT or vPvB

Ethanol

Not PBT or vPvB

12.6 Other Adverse Effects

Methanol

None

Ethanol

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	UN1170	UN1170	UN1170	UN1170
14.2 Shipping Name	ETHANOL SOLUTIONS	ETHANOL SOLUTIONS	ETHANOL SOLUTIONS	ETHANOL SOLUTIONS
14.3 Hazard Class	3	3	3	3
14.4 Packing Group	II	II	II	II
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
Methanol	Yes	No	No	Yes	Yes
Ethanol	Yes	No	No	Yes	Yes

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

NFPA Codes

Health 1 Flammability 3 Reactivity 0

Dangers

Methanol

H225 - Highly flammable liquid and vapor.

H301 - Toxic if swallowed

H311 - Toxic in contact with skin.

H331 - Toxic if inhaled.

H371 - May cause damage to organs.

Ethanol

H225 - Highly flammable liquid and vapor.

H319 - Causes serious eye irritation.

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.