

# 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: Solusol

Product Number: LS-311

### 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)  
H301 - Acute Toxicity-Oral (Category 3)  
H304 - Aspiration Hazard (Category 1)  
H311 - Acute Toxicity-Dermal (Category 3)  
H314 - Skin Corrosion/Irritation (Category 1B)  
H332 - Acute Toxicity-Inhalation (Category 4)  
H336 - May cause drowsiness or dizziness  
H361 - Toxic to Reproduction (Category 2)  
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.  
H301 - Toxic if swallowed  
H304 - May be fatal if swallowed and enters airways.  
H311 - Toxic in contact with skin.  
H314 - Causes severe skin burns and eye damage.  
H332 - Harmful if inhaled.  
H336 - May cause drowsiness or dizziness.  
H361 - Suspected of damaging fertility or the unborn child.  
H371 - May cause damage to organs.  
P201 - Obtain special instructions before use.  
P210 - Keep away from heat/sparks/open flames/hot surfaces---no smoking.  
P280 - Wear protective gloves/protective clothing/eye protection/face protection.  
P301+P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician .  
P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.  
P307+P311 - IF exposed: Call a POISON CENTER or doctor/physician.

### 2.3 Other Hazards

None found.

## SECTION 3 - COMPOSITION/INFORMATION ON INGREDIENTS

### 3.2 Mixture

## Chemical Names/Description

Mixture of toluene, methanol, and cationic surfactant.

## Component List

Component	% Comp.	CAS #	EC #	1278/2008 Classification
Methanol	20-30%	67-56-1	200-659-6	H225, H301, H311, H331, H371
Toluene	40-60%	108-88-3	203-625-9	H225, H304, H315, H336, H361, H373

## 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

##### Methanol:

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

##### Toluene:

Symptoms of overexposure may include fatigue, confusion, headache, dizziness and drowsiness. Peculiar skin sensations (e.g. pins and needles) or numbness may be produced.

#### Ingestion

##### Methanol:

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

##### Toluene:

As with inhalation, symptoms of overexposure may include fatigue, confusion, headache, dizziness and drowsiness. Peculiar skin sensations (e.g. pins and needles) or numbness may be produced.

#### Skin

##### Methanol:

Exposure may cause symptoms similar to those listed under Ingestion.

##### Toluene:

Redness, pain, swelling by irritation. If absorbed through skin, other symptoms may parallel inhalation and ingestion above.

#### Eyes

##### Methanol:

Irritation, redness, pain, and inflammation.

##### Toluene:

Redness and pain.

### 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

Oxides of carbon and nitrogen.

#### Hazardous Decomposition Products

Carbon oxides, nitrogen oxides, and formaldehyde gas 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 inert, absorbent material (vermiculite, dry sand, earth) to confine spill and sweep or shovel into container. Close container tightly. Avoid breathing vapors. Use nonsparking tools.

### 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 refrigerated, 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.

##### Toluene:

Heat, flame, strong oxidizers, nitric and sulfuric acids, chlorine, nitrogen tetroxide; will attack some forms of plastics, rubber, coatings.

### 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: Toluene

ACGIH Threshold Limit Value (TLV): 50 ppm

OSHA Permissible Exposure Limit (PEL): 200 ppm

### 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	Straw colored liquid	b. Odor	Aromatic hydrocarbon odor
c. Odor Threshold	N.A.	d. pH	N.A.
e. Melting/Freezing Point (°C)	0	f. Boiling point (°C)	65-111
g. Flash Point (°C)	7	h. Evaporation Rate	No Data
i. Flammability	Combustible	j. Upper/Lower Flammability or Explosive Limits	lcl: 3.3; uel 19
k. Vapor Pressure	84 @ 25 C	l. Vapor Density (Air = 1)	No Data
m. Relative Density	.91 g/ml	n. Water Solubility	50% Extractable
o. Partition Coefficient n-octanol/water	Mixture	p. Autoignition Temperature (°C)	422
q. Decomposition Temperature (°C)	N.A.	r. Viscosity	2.1 cSt @ 40 C
s. Explosive Properties	N.A.	t. Oxidizing Properties	Not an oxidizer

## SECTION 10 - STABILITY AND REACTIVITY

### 10.1 Reactivity

Not reactive under recommended 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.

#### Toluene:

Heat, flame, strong oxidizers, nitric and sulfuric acids, chlorine, nitrogen tetraoxide; will attack some forms of plastics, rubber, coatings.

### 10.6 Hazardous Decomposition Products

Carbon oxides, nitrogen oxides, and formaldehyde gas form when heated to decomposition.

## SECTION 11 - TOXICOLOGICAL INFORMATION

### Product LD50 Values

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

22512

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

63200

### Component Cancer List Status

	NTP Carcinogen		IARC Category
	Known	Anticipated	
Methanol	No	No	None
Toluene	No	No	3

### 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.

##### Toluene

Inhalation may cause irritation of the upper respiratory tract. Very high concentrations may cause unconsciousness and death.

#### 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.

**Toluene**

Swallowing may cause abdominal spasms and other symptoms that parallel over-exposure from inhalation. Aspiration of material into the lungs can cause chemical pneumonitis, which may be fatal.

**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.

**Toluene**

Causes irritation. May be absorbed through 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.

**Toluene**

Causes severe eye irritation.

**Carcinogenicity****Methanol**

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

**Toluene**

Toluene is not listed as a known or anticipated carcinogen by NTP. IARC lists toluene as category 3, unclassifiable as to its carcinogenicity in humans.

**Mutagenicity****Methanol**

No information available.

**Toluene**

No information found.

**Reproductive Toxicity****Methanol**

Possible reproductive hazard.

**Toluene**

Animal tests have shown that this substance possibly causes toxic effects upon human reproduction.

**Teratogenic Effects****Methanol**

No information available.

**Toluene**

Exposure to toluene may affect the developing fetus.

**Routes of Entry****Methanol**

Inhalation, ingestion, or skin contact.

**Toluene**

Inhalation, ingestion, skin absorption.

**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.

**Toluene**

Persons with pre-existing skin disorders or impaired liver or kidney function may be more susceptible to the effects of this substance. Alcoholic beverage consumption can enhance the toxic effects of this 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
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**COMPONENT: Toluene**

	<b>Vertebrates</b>	<b>Invertebrates</b>	<b>Algae</b>	<b>Microorganisms</b>
Aquatic Toxicity (ppm unless otherwise noted)	Lc50(96 hr coho salmon) 5.5mg/l	LC50 (2day, daphnia) 3.8mg/l	EC50 (3hr) 154mg/l	IC50 (24hr) 84mg/l

	<b>Birds</b>	<b>Arthropods</b>	<b>Plants</b>	<b>Microorganisms</b>
Terrestrial Environment Toxicity (ppm unless otherwise noted)	No data	No data	No data	No data

**12.2 Persistence and Degradability**

**Methanol**

Readily biodegradable (95% elimination in 20 days)

**Toluene**

No Data

**12.3 Bioaccumulative Potential**

**Methanol**

BCF<10

**Toluene**

BCF:90

**12.4 Mobility in Soil**

**Methanol**

Koc <1

**Toluene**

No data

**12.5 Results of PBT and vPvB Assessment**

**Methanol**

not PBT or vPvB

**Toluene**

not PBT / vPvB

**12.6 Other Adverse Effects**

**Methanol**

None

**Toluene**

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**

	<b>ADR/RID</b>	<b>IATA</b>	<b>IMO</b>	<b>DOT</b>
<b>14.1 UN Number</b>	1992	1992	1992	1992
<b>14.2 Shipping Name</b>	Flammable liquid, toxic, N.O.S.	Flammable liquid, toxic, N.O.S.	Flammable liquid, toxic, N.O.S.	Flammable liquid, toxic, N.O.S.
<b>14.3 Hazard Class</b>	3	3,6.1	3	3
<b>14.4 Packing Group</b>	II	II	II	II
<b>14.5 Environmental Hazards</b>	N.A.	N.A.	N.A.	N.A.
<b>14.6 Special Precautions</b>	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>
Methanol	Yes	No	No	Yes	Yes
Toluene	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

1/14/2014 - Released Version 1.0

### NFPA Codes

Health 2 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.

#### Toluene

H225 - Highly flammable liquid and vapor.

H304 - May be fatal if swallowed and enters airways.

H315 - Causes skin irritation.

H336 - May cause drowsiness or dizziness.

H360 - May damage fertility or the unborn child.

H373 - May cause damage to organs through prolonged or repeated exposure.

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