

## Ethanol Solution 50%

### 1. PRODUCT AND COMPANY IDENTIFICATION

**Product name:** Ethanol Solution 50%  
**Product code:** 3344

**Supplier:** Astral Diagnostics Inc.  
800-441-0366 Technical Service  
Monday-Friday: 8:00 -5:00 PM

**Synonym:** None.  
**Material uses:** Laboratory Reagent.  
**Validation date:** 12/11/2013  
**In case of emergency:** 800-424-9300 CHEMTREC (USA)  
24 Hours/Day: 7 Days/Week

### 2. HAZARDS IDENTIFICATION

#### Emergency Overview GHS Label, Pictogram



#### Signal Word: Danger

#### OSHA Hazards

Flammable liquid, Target Organ Effect, Toxic by inhalation, Toxic by ingestion, Toxic by skin absorption, Irritant

#### Hazard statement(s):

**H225:** Highly flammable liquid and vapor (Cat 2).

**H315:** Causes skin irritation (Cat 2)

**H319:** Causes serious eye irritation (Cat 2/2A).

**H332:** Harmful if inhaled (Cat 4).

#### Precautionary statement(s):

**P210:** Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

**P260:** Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.

**P280:** Wear protective gloves/ eye protection/ face protection.

**P305+351+338:** If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

#### GHS Classification

Flammable liquids (Category 2)

Acute toxicity, Oral (Category 5)

Eye irritation (Category 2B)

Specific target organ toxicity - single exposure (Category 1)

#### HMIS Classification

Health hazard: 1

Flammability: 3

Physical hazards: 0

**NFPA Rating**

Health hazard: 1  
 Fire: 3  
 Reactivity Hazard: 0

**Potential Health Effects**

Inhalation - Toxic if inhaled. Causes respiratory tract irritation.  
 Skin - Toxic if absorbed through skin. Causes skin irritation.  
 Eyes - Causes eye irritation.  
 Ingestion - Toxic if swallowed.

**Target Organs**

Nerves, Liver, Heart, Eyes, Kidney, Central nervous system

**3. COMPOSITION/INFORMATION ON INGREDIENTS**

Name	CAS number	% by weight
Methanol	67-56-1	~ 2.4
Isopropanol	67-63-0	~ 2.4
Ethanol	64-17-5	~ 45
Water	7732-18-5	50

**4. FIRST AID MEASURES**

- Eye contact:** Check for and remove any contact lenses. Immediately flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical attention immediately.
- Skin contact:** In case of contact, flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Clean shoes thoroughly before reuse. Get medical attention immediately.
- Inhalation:** Move exposed person to fresh air. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. Loosen tight clothing such as a collar, tie, belt or waistband. Get medical attention immediately.
- Ingestion:** Call medical doctor or poison control center immediately. Wash out mouth with water. Do not induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person. Get medical attention immediately.

**5. FIRE-FIGHTING MEASURES**

- Flammability of the product:** Flammable liquid. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Runoff to sewer may create fire or explosion hazard.
- Extinguishing media:** Use dry chemical, CO<sub>2</sub>, water spray (fog) or foam.
- Not suitable:** Do not use water jet.
- Special exposure hazards:** Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.
- Hazardous thermal decomposition products:** Decomposition products may include the following materials:  
 carbon dioxide  
 carbon monoxide  
 nitrogen oxides  
 sulfur oxides  
 halogenated compounds  
 metal oxide/oxides
- Special protective equipment for fire-fighters:** Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

## 6. ACCIDENTAL RELEASE MEASURES

- Personal precautions:** No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Do not breathe vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment (see Section 8).
- Environmental precautions:** Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Spill:** Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Use spark-proof tools and explosion-proof equipment. Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see section 1 for emergency contact information and section 13 for waste disposal. Dilute with water and mop up if water-soluble or absorb with an inert dry material and place in an appropriate waste disposal container.

## 7. HANDLING AND STORAGE

- Handling:** Do not get in eyes or on skin or clothing. Do not breathe vapor or mist. Do not ingest. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Do not enter storage areas and confined spaces unless adequately ventilated. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use non-sparking tools. Take precautionary measures against electrostatic discharges. To avoid fire or explosion, dissipate static electricity during transfer by grounding and bonding containers and equipment before transferring material. Use empty containers to retain product, residue can be hazardous. Do not reuse container.
- Storage:** Store in accordance with local regulations. Store in a segregated and approved area. Store in original container, protected from direct sunlight. Eliminate all ignition sources. Separate from oxidizing materials. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredient	Exposure limits
Methanol	<b>ACGIH TLV (United States, 3/2012). Absorbed through skin.</b>
	TWA: 200 ppm 8 hour(s).
	TWA: 262 mg/m <sup>3</sup> 8 hour(s).
	STEL: 250 ppm 15 minute(s).
	STEL: 328 mg/m <sup>3</sup> 15 minute(s).
	<b>OSHA PEL 1989 (United States, 3/1989). Absorbed through skin.</b>
	TWA: 200 ppm 8 hour(s).
	TWA: 260 mg/m <sup>3</sup> 8 hour(s).
	STEL: 250 ppm 15 minute(s).
	STEL: 325 mg/m <sup>3</sup> 15 minute(s).
	<b>NIOSH REL (United States, 1/2013). Absorbed through skin.</b>
	TWA: 200 ppm 10 hour(s).
TWA: 260 mg/m <sup>3</sup> 10 hour(s).	
STEL: 250 ppm 15 minute(s).	
STEL: 325 mg/m <sup>3</sup> 15 minute(s).	
<b>OSHA PEL (United States, 6/2010).</b>	

TWA: 200 ppm 8 hour(s).  
TWA: 260 mg/m<sup>3</sup> 8 hour(s).

Ethanol

**ACGIH TLV (United States, 3/2012).**  
STEL: 1000 ppm 15 minute(s).  
**OSHA PEL 1989 (United States, 3/1989).**  
TWA: 1900 mg/m<sup>3</sup> 8 hour(s).  
TWA: 1000 ppm 8 hour(s).  
**NIOSH REL (United States, 1/2013).**  
TWA: 1000 ppm 10 hour(s).  
TWA: 1900 mg/m<sup>3</sup> 10 hour(s).  
**OSHA PEL (United States, 6/2010).**  
TWA: 1000 ppm 8 hour(s).  
TWA: 1900 mg/m<sup>3</sup> 8 hour(s).

**Consult local authorities for acceptable exposure limits.**

- Engineering measures:** Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapor or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.
- Hygiene measures:** Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Personal protection**
- Respiratory:** Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hands:** Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Recommended: neoprene
- Eyes:** Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists or dusts. Recommended: splash goggles
- Skin:** Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Recommended: lab coat
- Environmental exposure controls:** Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical state:</b>	Liquid.	<b>Color:</b>	Clear
<b>Flash Point:</b>	Open cup: 54°F	<b>Odor:</b>	Characteristic, alcohol-like.
<b>pH:</b>	Not available.	<b>Boiling/condensation point:</b>	Not available.
<b>Melting/freezing point:</b>	Not available.	<b>Relative density:</b>	Not available.
<b>Vapor pressure:</b>	Not available.	<b>Vapor density:</b>	Not available.
<b>Odor threshold:</b>	Not available.	<b>Evaporation rate:</b>	Not available.
<b>VOC:</b>	100% (v/v)	<b>Flammable limits:</b>	Lower: 3.3% Upper: 19%

**Solubility:** Soluble in the following materials: water

## 10. STABILITY AND REACTIVITY

**Chemical stability:** The product is stable.  
**Possibility of hazardous reactions:** Under normal conditions of storage and use, hazardous reactions will not occur.  
**Hazardous polymerization:** Under normal conditions of storage and use, hazardous polymerization will not occur.  
**Conditions to avoid:** Avoid all possible sources of ignition (spark or flame). Do not pressurize, cut, weld, braze, solder, drill, grind or expose containers to heat or sources of ignition.  
**Materials to avoid:** Highly reactive or incompatible with the following materials: oxidizing materials. Reactive or incompatible with the following materials: reducing materials, metals and acids.

**Hazardous decomposition products:** Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
**Conditions of reactivity:** Highly flammable in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts and oxidizing materials. Highly explosive in the presence of the following materials or conditions: open flames, sparks and static discharge, heat, shocks and mechanical impacts and oxidizing materials.

## 11. TOXICOLOGICAL INFORMATION

### Acute toxicity

#### Oral LD50

no data available

#### Inhalation LC50

no data available

#### Dermal LD50

no data available

#### Other information on acute toxicity

no data available

#### Skin corrosion/irritation

no data available

#### Serious eye damage/eye irritation

Eyes: no data available

#### Respiratory or skin sensitization

no data available

#### Germ cell mutagenicity

no data available

#### Specific target organ toxicity - single exposure (Globally Harmonized System)

no data available

#### Specific target organ toxicity - repeated exposure (Globally Harmonized System)

no data available

#### Aspiration hazard

no data available

#### Potential health effects

**Inhalation** Toxic if inhaled. Causes respiratory tract irritation.

**Ingestion** Toxic if swallowed.

**Skin** Toxic if absorbed through skin. Causes skin irritation.

**Eyes** Causes eye irritation.

#### Signs and Symptoms of Exposure

Warning: contains methanol. May be fatal or cause blindness if swallowed. Cannot be made nonpoisonous. Effects Due to ingestion may include: Gastrointestinal disturbance, Headache, Nausea, Vomiting, Dizziness, Weakness, Confusion, Drowsiness, Unconsciousness. To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

## 12. ECOLOGICAL INFORMATION

**Toxicity**

no data available

**Persistence and degradability**

no data available

**Bioaccumulative potential**

no data available

**Mobility in soil**

no data available

**PBT and vPvB assessment**

no data available

**Other adverse effects**

no data available

**13. DISPOSAL CONSIDERATIONS**

The information presented only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. Disposal should be in accordance with applicable regional, national and local laws and regulations.

**14. TRANSPORT INFORMATION****DOT (US)**

UN number: 1170

Class: 3

Packing group: II

Proper shipping name: Ethanol solutions

Marine pollutant: No

Poison Inhalation Hazard: No

**IMDG**

UN number: 1170

Class: 3

Packing group: II

EMS-No: F-E, S-D

Proper shipping name: Ethanol solutions

Marine pollutant: No

**IATA**

UN number: 1170

Class: 3

Packing group: II

Proper shipping name: Ethanol solutions

Marine pollutant: No

**15. REGULATORY INFORMATION****United States****HCS Classification:** Flammable liquid, Highly toxic material, Irritating material, Target organ effects**U.S. Federal regulations:****TSCA 8(a) IUR:** Partial exemption**United States inventory (TSCA 8b):** All components are listed or exempted.

TSCA (Toxic Substance Control Act): This product is listed on the TSCA Inventory.

**SARA 302/304/311/312 extremely hazardous substances:** No products were found.**SARA 302/304 emergency planning and notification:** No products were found.**SARA 302/304/311/312 hazardous chemicals:** Ethyl Alcohol; Methanol**SARA 311/312 MSDS distribution - chemical inventory - hazard identification:**

Eosin Y: Immediate (acute) health hazard; Methanol: Fire hazard, Immediate (acute)

Health hazard, Delayed (chronic) health hazard; Ethanol: Fire hazard, Immediate (acute)

Health hazard, Delayed (chronic) health hazard

**Clean Air Act (CAA) 112 accidental release prevention:** No products were found.

Clean Air Act (CAA) 112 regulated flammable substances: No products were found.

Clean Air Act (CAA) 112 regulated toxic substances: No products were found.

**DEA List I & II Chemicals (Precursor Chemicals):** Not listed

**SARA 313**

	<b>Product name</b>	<b>CAS number</b>	<b>Concentration</b>
<b>Form R - Reporting Requirements:</b>	Methanol	67-56-1	99 - 100
<b>Supplier notification:</b>	Methanol	67-56-1	99 - 100

SARA 313 notifications must not be detached from the MSDS and any copying and redistribution of the MSDS shall include copying and redistribution of the notice attached to copies of the MSDS subsequently redistributed.

**Connecticut Carcinogen Reporting:** None of the components are listed.  
**Connecticut Hazardous Material Survey:** None of the components are listed.  
**Florida substances:** None of the components are listed.  
**Illinois Chemical Safety Act:** None of the components are listed.  
**Illinois Toxic Substances Disclosure to Employee Act:** None of the components are listed.  
**Louisiana Spill:** None of the components are listed.  
**Louisiana Reporting:** None of the components are listed.  
**Massachusetts Spill:** None of the components are listed.  
**Massachusetts Substances:** The following components are listed: Ethyl Alcohol; Methanol  
**Minnesota Hazardous Substances:** None of the components are listed.  
**Michigan Critical Material:** None of the components are listed.  
**New Jersey Toxic Catastrophe Prevention Act:** None of the components are listed.  
**New Jersey Spill:** None of the components are listed.  
**New Jersey Hazardous Substances:** The following components are listed: Ethyl Alcohol; Methanol  
**New York Toxic Chemical Release Reporting:** None of the components are listed.  
**New York Acutely Hazardous Substances:** The following components are listed: Methanol  
**Pennsylvania RTK Hazardous Substances:** The following components are listed: Ethyl Alcohol; Methanol  
**Rhode Island Hazardous Substances:** None of the components are listed.

**California Prop. 65**

**WARNING:** This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.

<u>Ingredient name</u>	<u>Cancer</u>	<u>Reproductive level</u>	<u>No significant risk level</u>	<u>Maximum acceptable dosage</u>
Methanol	No.	Yes.	No.	No.

**CANADA**

**WHMIS (Canada):**

Class B-2: Flammable liquid.  
Class D-1B: Material causing immediate and serious toxic effects (Toxic).  
Class D-2A: Material causing other toxic effects (Very toxic).  
Class D-2B: Material causing other toxic effects (Toxic).

**Canadian lists:**

**CEPA Toxic substances:** None of the components are listed.  
**Canadian ARET:** None of the components are listed.  
**Canadian NPRI:** The following components are listed: Ethanol; Methanol  
**Alberta Designated Substances:** None of the components are listed.  
**Ontario Designated Substances:** None of the components are listed.  
**Quebec Designated Substances:** None of the components are listed.

**CEPA DSL / CEPA NDSL:**

All components are listed or exempted.

*This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations and the MSDS contains all the information required by the Controlled Products Regulations.*

**International regulations**

**International lists:**

**Australia inventory (AICS):** All components are listed or exempted.  
**China inventory (IECSC):** All components are listed or exempted.  
**Japan inventory:** All components are listed or exempted.  
**Korea inventory:** All components are listed or exempted.

**New Zealand Inventory of Chemicals (NZIoC):** All components are listed or exempted.

**Philippines inventory (PICCS):** All components are listed or exempted.

## 16. OTHER INFORMATION

### National Fire Protection Association (U.S.A.)



#### Notice to reader

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