

MATERIAL SAFETY DATA SHEET
REQUIRED UNDER SAFETY AND HEALTH REGULATION FOR SHIP REPAIRING

DATE UPDATED: MAY 09, 2014

SECTION 1. ----- CHEMICAL IDENTIFICATION -----

Product Name Ethanol, denatured
Product Code(s) D0193
Recommended Use For Further Manufacturing Use Only
 Not for Human or Animal Drug Use
Synonyms Ethyl alcohol

SECTION 2. ----- HAZARDS IDENTIFICATION -----

Classification Flammable Liquid 2 Specific Target Organ Toxicity (Single) 1 Acute Toxicity Oral 3
 Acute Toxicity Inhalation 3 Acute Toxicity Dermal 3
Signal Word Danger



Hazard Statements H225 - Highly flammable liquid and vapor H331 - Toxic if inhaled H301 - Toxic if swallowed H311 - Toxic in contact with skin H371 - May cause damage to organs (acute)

Precautionary Statements P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking P280 - Wear protective gloves/protective clothing/eye protection/face protection P302+ P352 - IF ON SKIN: Wash with plenty of soap and water P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

SECTION 3. ----- COMPOSITION/INFORMATION ON INGREDIENTS -----

Chemical Name	EC No.	REACH Reg. No.	CAS-No	Weight %	Classification
Ethanol	200-578-6	Not available	64-17-5	85-90	F;R11
Methanol	200-659-6	Not available	67-56-1	10-15	F;R11 T;R23/24/25-39/23/24/ 25

SECTION 4. ----- FIRST-AID MEASURES-----

Eye Contact Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

Skin Contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Inhalation Move to fresh air. If not breathing, give artificial respiration. If breathing becomes difficult, give oxygen

Ingestion Clean mouth with water and afterwards drink plenty of water. Never give anything by mouth to an unconscious person.

Notes to Physician Treat symptomatically

SECTION 5. ----- FIRE FIGHTING MEASURES -----

Flammable Properties Flammable liquid.

Flash Point 55 °F

Suitable Extinguishing Media Dry chemical, CO2, appropriate foam. Use water spray to cool fire-exposed containers

Hazardous Combustion Products Carbon oxides

Explosion Data

Sensitivity to Mechanical Impact Not sensitive

Sensitivity to Static Discharge Not sensitive

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

SECTION 6. ----- ACCIDENTAL RELEASE MEASURES-----

Personal Precautions Use personal protective equipment. Avoid breathing vapours, mist or gas.
Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations.
Vapours can accumulate in low areas.

Methods for Containment Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Methods for Cleaning Up Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations

SECTION 7. ----- HANDLING AND STORAGE-----

Handling Avoid contact with skin and eyes. Avoid inhalation of vapour or mist.
Use explosion-proof equipment. Keep away from sources of ignition - No smoking.
Take measures to prevent the build up of electrostatic charge.

Storage Keep container tightly closed in a dry and well-ventilated place. Containers which are

opened must be carefully resealed and kept upright to prevent leakage.

Moisture sensitive. Handle and store under inert gas.

Incompatible Products Oxidizing agents. Peroxides. Acids. Anhydrides. Acid chlorides. Alkali metals. Ammonia.

SECTION 8. - - - - - EXPOSURE CONTROLS/PERSONAL PROTECTION - - - - -

Chemical Name	ACGIH TLV	OSHA PEL	NIOSH IDLH
Ethanol 64-17-5		TWA: 1000 ppm TWA: 1900 mg/m3 (vacated) TWA: 1000 ppm (vacated) TWA: 1900 mg/m3	IDLH: 3300 ppm 10% LEL TWA: 1000 ppm TWA: 1900 mg/m3
Methyl alcohol 67-56-1	= 250 ppm STEL TWA: 200 ppm	TWA: 200 ppm TWA: 260 mg/m3 (vacated) TWA: 200 ppm (vacated) TWA: 260 mg/m3 (vacated) STEL: 250 ppm (vacated) STEL: 325 mg/m3 Skin	IDLH: 6000 ppm TWA: 200 ppm TWA: 260 mg/m3 STEL: 325 mg/m3 STEL: 250 ppm

Engineering Measures

- Showers
- Eyewash stations
- Ventilation systems

Personal Protective Equipment

Eye/Face Protection

Tightly fitting safety goggles

Skin and Body Protection

Wear protective gloves/clothing

Respiratory Protection

If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA Approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

SECTION 9. - - - - - PHYSICAL AND CHEMICAL PROPERTIES - - - - -

Appearance	Colorless	
Odor	Mild, rather pleasant, like wine or whiskey	
Odor Threshold	No information available	
Decomposition Temperature °C	No information available	
Freezing Point	No information available	
Initial Boiling Point	No information available	
Physical State	Liquid	
pH	No data available	
Flash Point	55 °F	
Flammable Properties	Flammable liquid.	
Autoignition Temperature	789 °F / 421 °C /	
Boiling Point/Range	75 °C	
Melting Point/Range	-130 °C	
Flammability Limits in Air	Upper No data available	Lower No data available
Explosion Limits	Upper 19%	Lower 4.3%
Explosive Properties	No information available	
Oxidizing Properties	No information available	

Evaporation Rate No data available
MMHG @ 37.8 C No data available
Vapor Density No data available
Specific Gravity No data available
Density 1.59
Solubility Miscible
Partition Coefficient (n-octanol/water) No data available
Viscosity No information available

SECTION 10. -----STABILITY AND REACTIVITY -----

Stability Stable under recommended storage conditions
Incompatible Products Oxidizing agents. Peroxides. Acids. Anhydrides. Acid chlorides. Alkali metals. Ammonia.
Conditions to Avoid Keep away from sources of ignition-no smoking.
Hazardous Decomposition Products Carbon oxides
Hazardous Polymerization Hazardous polymerization does not occur

SECTION 11. ----- TOXICOLOGICAL INFORMATION -----

Acute Toxicity

Product Information Irritating to eye, skin and respiratory system. Harmful if swallowed, inhaled, or absorbed through skin

Chemical Name	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethanol	7060 mg/kg (Rat)		
Methyl alcohol	5628 mg/kg (Rat)	15800 mg/kg (Rabbit)	64000 ppm (Rat) 4 h 83.2 mg/L (Rat) 4 h

Chronic Toxicity

Chronic Toxicity Prolonged skin contact may defat the skin and produce dermatitis.

Chemical Name	ACGIH	IARC	NTP	OSHA
Ethanol		Group 1	Known	X

Target Organ Effects Nerves, Eyes, Kidneys, Heart, Cardiovascular system, Gastrointestinal tract (GI).

SECTION 12. ----- ECOLOGICAL INFORMATION -----

Ecotoxicity

Harmful to aquatic organisms.

Chemical Name	Toxicity to Algae	Toxicity to Fish	Microtox	Daphnia Magna (Water Flea)
Ethanol		LC50= 12900 mg/L Oncorhynchus mykiss 96 h LC50= 14.2 mg/L Pimephales promelas 96 h	EC50 = 34634 mg/L 30 min EC50 = 35470 mg/L 5 min	EC50 = 10800 mg/L 24 h EC50 = 9268 mg/L 48 h
Methyl alcohol		LC50= 13200 mg/L Oncorhynchus mykiss 96 h LC50= 28100 mg/L Pimephales promelas 96 h	EC50 = 39000 mg/L 25 min EC50 = 40000 mg/L 15 min EC50 = 43000 mg/L 5 min	

Chemical Name	Log Pow
Ethanol	-0.32
Methyl alcohol	= -0.77

SECTION 13. ----- DISPOSAL CONSIDERATIONS -----

Waste Disposal Method Dispose of material in accordance with all federal, state, and local regulations

Contaminated Packaging Dispose of in accordance with all federal, state and local regulations

SECTION 14. ----- TRANSPORT INFORMATION -----

IATA

UN-No 1170
 Proper Shipping Name Ethanol Solution
 Hazard Class 3
 Packing Group II

DOT

Proper Shipping Name Ethanol Solution
 Hazard Class 3
 UN-No 1170
 Packing Group II

SECTION 15. ----- REGULATORY INFORMATION -----

REACH Title VII Restrictions No information available.

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on the Label	Pollution Release and Transfer Registry (Class II):	Pollution Release and Transfer Registry (Class I):	Poison and Deleterious Substances Control Law:
Ethanol	X	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Methyl alcohol	X	Class 2	X	Not applicable	Not applicable	Deleterious

Component	ISHA - Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA - Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) - Toxic Chemicals	Toxic Release Inventory (TRI) - Group I	Toxic Release Inventory (TRI) - Group II
Ethanol 64-17-5 (95-100)	Not applicable	Not applicable	Not applicable	Not applicable	Not applicable
Methyl alcohol 67-56-1 (0-7)	Not applicable	Not applicable	97-1-80, 85 % or more in mixtures	Not applicable	>= 1.0 %

International Inventories

TSCA	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies

U.S. Federal Regulations

SARA 313

Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product contains a chemical or chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372

Chemical Name	CAS-No	Weight %	SARA 313 - Threshold Values %
Methyl alcohol	67-56-1	0-7	1.0

SARA 311/312 Hazard Categories

Acute Health Hazard	Yes
Chronic Health Hazard	Yes
Fire Hazard	Yes
Sudden Release of Pressure Hazard	No
Reactive Hazard	No

Clean Water Act

This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42).

Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61)

This product contains the following substances which are listed hazardous air pollutants (HAPS) under Section 112 of the Clean Air Act.

Chemical Name	CAS-No	Weight %	HAPS data	VOC Chemicals	Class 1 Ozone Depletors	Class 2 Ozone Depletors
Methyl alcohol	67-56-1	0-7	Present	Group IV		

CERCLA

Chemical Name	Hazardous Substances RQs	Extremely Hazardous Substances RQs
Methyl alcohol	5000 lb	

U.S. State Regulations

California Proposition 65

This product contains the following Proposition 65 chemicals

Chemical Name	CAS-No	California Prop. 65
Ethanol	64-17-5	Developmental

U.S. State Right-to-Know Regulations

Chemical Name	Massachusetts	New Jersey	Pennsylvania	Illinois	Rhode Island
Ethanol	X	X	X		X
Methyl alcohol	X	X	X	X	X

International Regulations

Mexico - Grade -

Chemical Name	Carcinogen Status	Exposure Limits
Ethanol		Mexico: TWA= 1900 mg/m ³ Mexico: TWA= 1000 ppm
Methyl alcohol		Mexico: TWA= 200 ppm Mexico: TWA= 260 mg/m ³ Mexico: STEL= 250 ppm Mexico: STEL= 310 mg/m ³

Canada

WHMIS Hazard Class

B2 Flammable liquid

D1B Toxic materials



Chemical Name	NPRI
Methyl alcohol	X

SECTION 16. ----- OTHER INFORMATION-----

Issuing Date 13-Aug-2009
Revision Date 09-May-2014
Revision Note No information available.
Recommended Restrictions No information available

Disclaimer

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End of MSDS