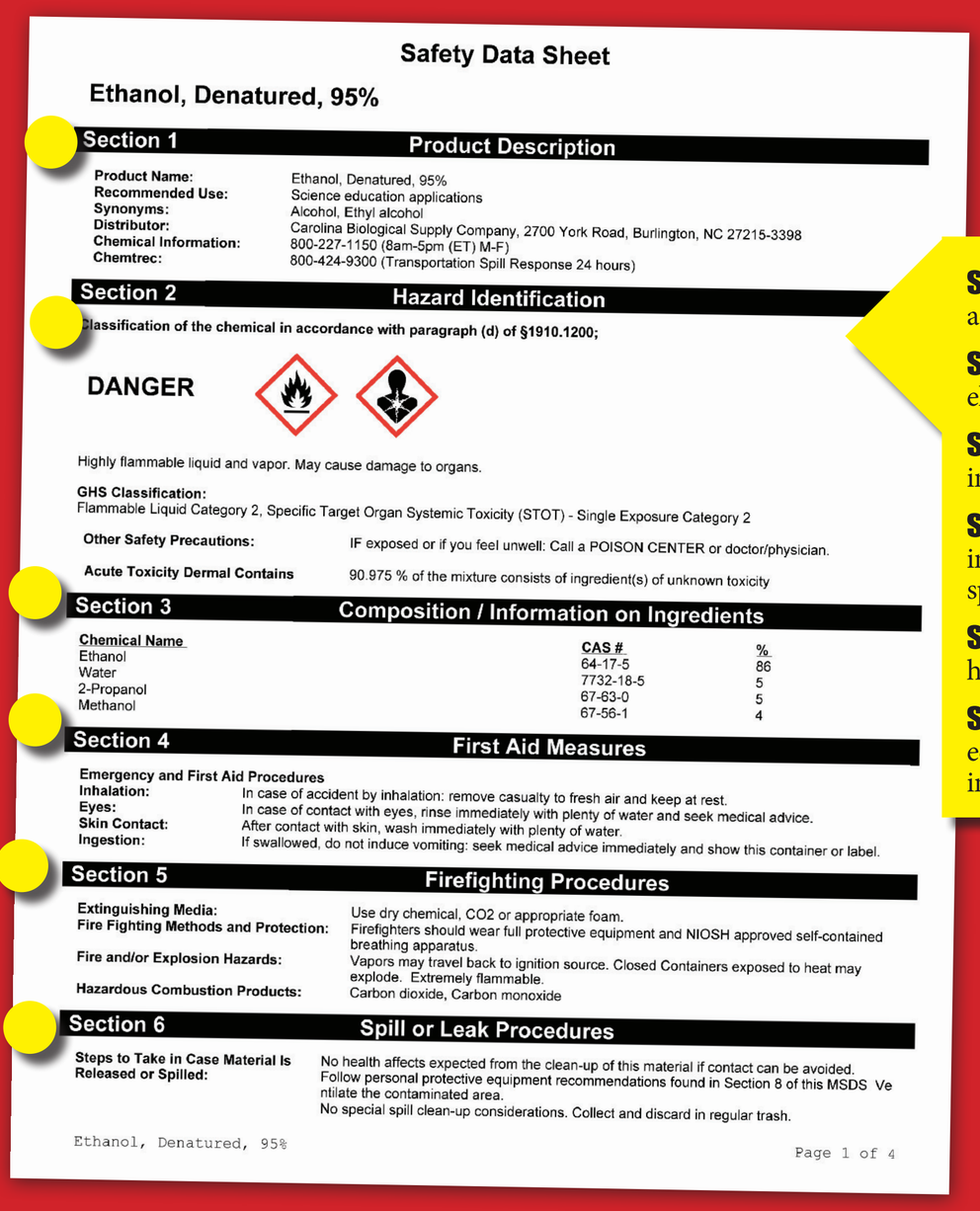
GHS & Safety Data Sheets

What is an SDS?

Under the new Globally Harmonized System of Classification and Labeling of Chemicals (GHS), the new Safety Data Sheet (SDS) replaces the old Material Safety Data Sheet (MSDS). The SDS is a 16-section document that tells you the hazards and how to safely handle chemicals while on the job.



Safety Data Sheet

Ethanol, Denatured, 95%

Section 1 Product Description

Product Name:	Ethanol, Denatured, 95%
Recommended Use:	Science education applications
Synonyms:	Alcohol, Ethyl alcohol
Distributor:	Carolina Biological Supply Company, 2700 York Road, Burlington, NC 27215-3398
Chemical Information:	800-227-1150 (8am-5pm (ET) M-F)
Chemtrec:	800-424-9300 (Transportation Spill Response 24 hours)

Section 2 Hazard Identification

Classification of the chemical in accordance with paragraph (d) of §1910.1200;

DANGER

Highly flammable liquid and vapor. May cause damage to organs.

GHS Classification:
Flammable Liquid Category 2, Specific Target Organ Systemic Toxicity (STOT) - Single Exposure Category 2

Other Safety Precautions: IF exposed or if you feel unwell: Call a POISON CENTER or doctor/physician.

Acute Toxicity Dermal Contains 90.975 % of the mixture consists of ingredient(s) of unknown toxicity

Section 3 Composition / Information on Ingredients

Chemical Name	CAS #	%
Ethanol	64-17-5	86
Water	7732-18-5	5
2-Propanol	67-63-0	5
Methanol	67-56-1	4

Section 4 First Aid Measures

Emergency and First Aid Procedures

Inhalation:	In case of accident by inhalation: remove casualty to fresh air and keep at rest.
Eyes:	In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
Skin Contact:	After contact with skin, wash immediately with plenty of water.
Ingestion:	If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Section 5 Firefighting Procedures

Extinguishing Media:	Use dry chemical, CO2 or appropriate foam.
Fire Fighting Methods and Protection:	Firefighters should wear full protective equipment and NIOSH approved self-contained breathing apparatus.
Fire and/or Explosion Hazards:	Vapors may travel back to ignition source. Closed Containers exposed to heat may explode. Extremely flammable.
Hazardous Combustion Products:	Carbon dioxide, Carbon monoxide

Section 6 Spill or Leak Procedures

Steps to Take in Case Material Is Released or Spilled:	No health affects expected from the clean-up of this material if contact can be avoided. Follow personal protective equipment recommendations found in Section 8 of this MSDS Ventilate the contaminated area. No special spill clean-up considerations. Collect and discard in regular trash.

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SECTION 1, *Identification*, includes the product identifier, the manufacturer or distributor name, the address, telephone number, emergency telephone number, recommended use, and restrictions on use.

SECTION 2, *Hazard(s) Identification*, covers all hazards of the chemical and the required label elements.

SECTION 3, *Composition/Information on Ingredients*, provides information on chemical ingredients, including trade secret claims.

SECTION 4 describes *First-Aid Measures*, separated out by routes of exposure and identifying the most important symptoms and effects. This section also explains when immediate medical attention and special treatment are needed.

SECTION 5, *Fire-Fighting Measures*, outlines extinguishing techniques, equipment, and any chemical hazards from fire.

SECTION 6 is *Accidental Release Measures,* which describes emergency procedures, protective equipment, and how to contain and cleanup when that product is spilled, released, or otherwise involved.

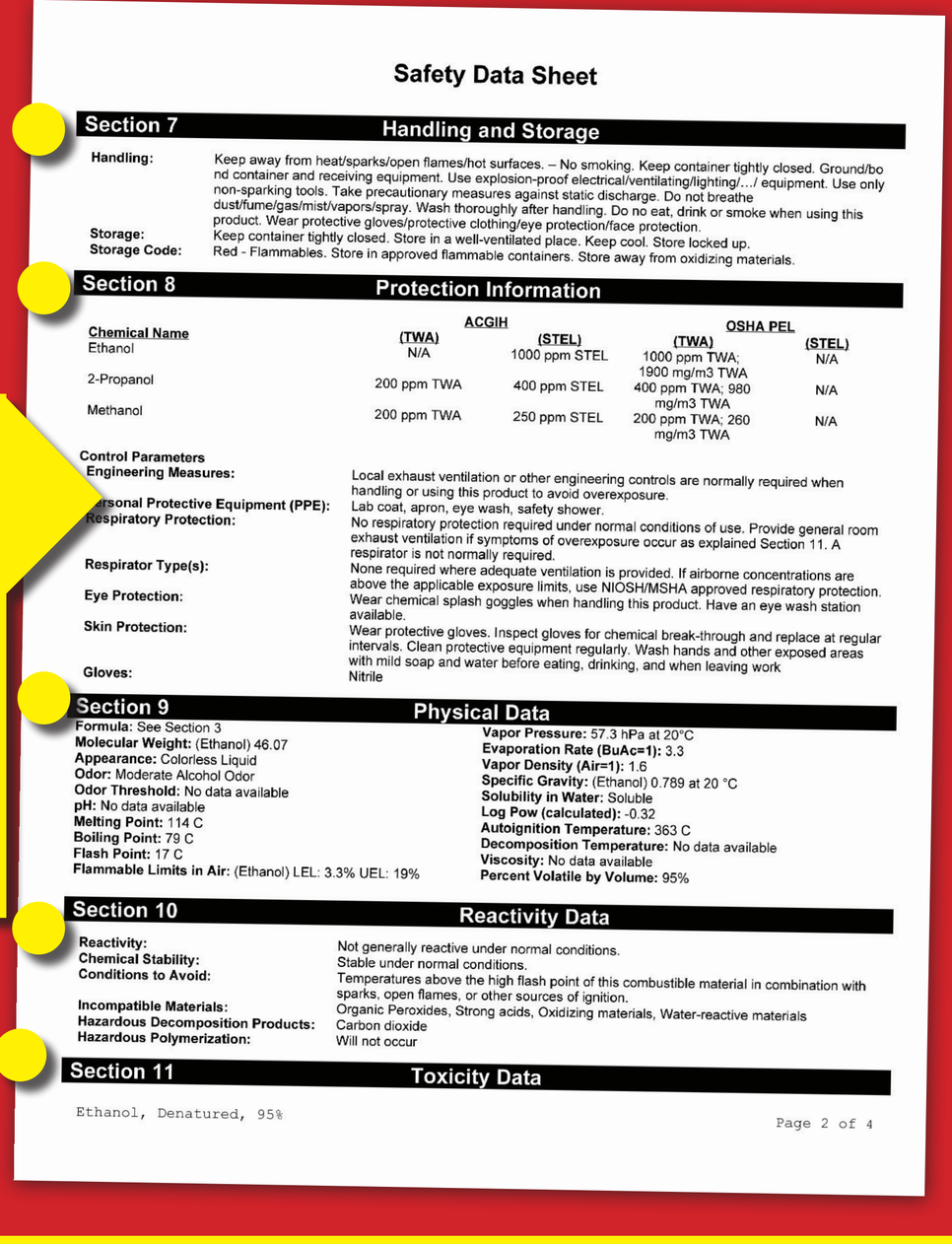
SECTION 7, *Handling and Storage*, identifies precautions for safely handling and storing the chemical product, including any incompatibilities.

SECTION 8, *Exposure Controls/Personal Protection*, indicates OSHA's permissible exposure limit, or PEL; ACGIH Threshold Limit Values, or TLVs; recommended engineering controls; and personal protective equipment, or PPE.

SECTION 9, *Physical and Chemical Properties*, lists the chemical's characteristics, such as appearance, odor, melting or freezing points, flash point, evaporation rate, flammability, and solubility, just to name a few.

SECTION 10, *Stability and Reactivity*, indicates the product's stability, possibility of hazardous reactions, conditions to avoid, incompatible materials, and hazardous decomposition products.

SECTION 11, *Toxicological Information*, describes the likely routes of exposure, symptoms of exposure, numerical measures of toxicity, and whether or not the product is listed in the National Toxicology Program, NTP, Report on Carcinogens or has been found to be a potential carcinogen by OSHA or in the International Agency for Research on Cancer, IARC, Monographs.



Safety Data Sheet

Section 7 Handling and Storage

Handling:	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. Do not breathe dust/fume/gas/mist/vapors/spray. Wash thoroughly after handling. Do no eat, drink or smoke when using this product. Wear protective gloves/protective clothing/eye protection/face protection.
Storage:	Keep container tightly closed. Store in a well-ventilated place. Keep cool. Store locked up.
Storage Code:	Red - Flammables. Store in approved flammable containers. Store away from oxidizing materials.

Section 8 Protection Information

Chemical Name	ACGIH (TWA)	ACGIH (STEL)	OSHA PEL (TWA)	OSHA PEL (STEL)
Ethanol	N/A	1000 ppm STEL	1000 ppm TWA; 1900 mg/m3 TWA	N/A
2-Propanol	200 ppm TWA	400 ppm STEL	400 ppm TWA; 980 mg/m3 TWA	N/A
Methanol	200 ppm TWA	250 ppm STEL	200 ppm TWA; 260 mg/m3 TWA	N/A

Control Parameters

Engineering Measures:	Local exhaust ventilation or other engineering controls are normally required when handling or using this product to avoid overexposure.
Personal Protective Equipment (PPE):	Lab coat, apron, eye wash, safety shower.
Respiratory Protection:	No respiratory protection required under normal conditions of use. Provide general room exhaust ventilation if symptoms of overexposure occur as explained Section 11. A respirator is not normally required.
Respirator Type(s):	None required where adequate ventilation is provided. If airborne concentrations are above the applicable exposure limits, use NIOSH/MSHA approved respiratory protection.
Eye Protection:	Wear chemical splash goggles when handling this product. Have an eye wash station available.
Skin Protection:	Wear protective gloves. Inspect gloves for chemical break-through and replace at regular intervals. Clean protective equipment regularly. Wash hands and other exposed areas with mild soap and water before eating, drinking, and when leaving work
Gloves:	Nitrile

Section 9 Physical Data

Formula: See Section 3	**Vapor Pressure:** 57.3 hPa at 20°C
Molecular Weight: (Ethanol) 46.07	**Evaporation Rate (BuAc=1):** 3.3
Appearance: Colorless Liquid	**Vapor Density (Air=1):** 1.6
Odor: Moderate Alcohol Odor	**Specific Gravity:** (Ethanol) 0.789 at 20 °C
Odor Threshold: No data available	**Solubility in Water:** Soluble
pH: No data available	**Log Pow (calculated):** -0.32
Melting Point: 114 C	**Autoignition Temperature:** 363 C
Boiling Point: 79 C	**Decomposition Temperature:** No data available
Flash Point: 17 C	**Viscosity:** No data available
Flammable Limits in Air: (Ethanol) LEL: 3.3% UEL: 19%	**Percent Volatile by Volume:** 95%

Section 10 Reactivity Data

Reactivity:	Not generally reactive under normal conditions.
Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Temperatures above the high flash point of this combustible material in combination with sparks, open flames, or other sources of ignition.
Incompatible Materials:	Organic Peroxides, Strong acids, Oxidizing materials, Water-reactive materials
Hazardous Decomposition Products:	Carbon dioxide
Hazardous Polymerization:	Will not occur

Section 11 Toxicity Data

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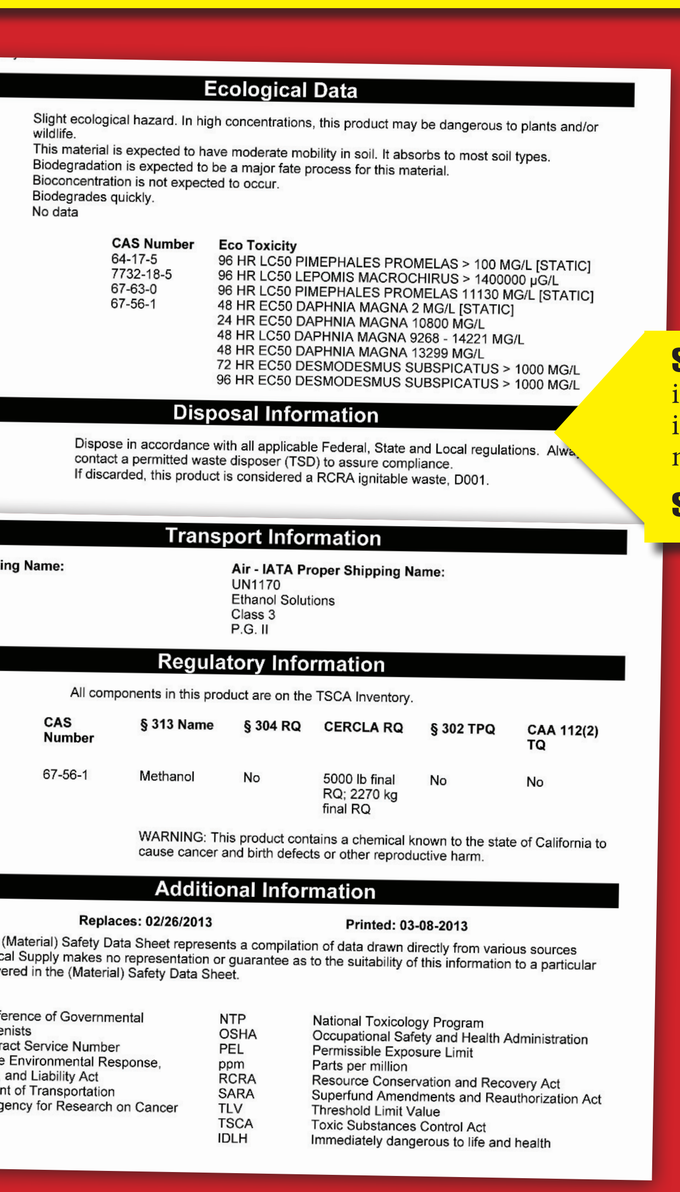

Section 12 Ecological Data

Overview:	Slight ecological hazard. In high concentrations, this product may be dangerous to plants and/or wildlife.
Mobility:	This material is expected to have moderate mobility in soil. It absorbs to most soil types.
Persistence:	Biodegradation is expected to be a major fate process for this material.
Bioaccumulation:	Bioconcentration is not expected to occur.
Degradability:	Biodegrades quickly.
Other Adverse Effects:	No data

Chemical Name	CAS Number	Eco Toxicity
Ethanol	64-17-5	96 HR LC50 PIMEPHALES PROMELAS > 100 MG/L [STATIC]
Water	7732-18-5	96 HR LC50 LEPOMIS MACROCHIRUS > 1400000 µG/L
2-Propanol	67-63-0	96 HR LC50 PIMEPHALES PROMELAS 11130 MG/L [STATIC]
Methanol	67-56-1	48 HR EC50 DAPHNIA MAGNA 2 MG/L [STATIC]
		24 HR EC50 DAPHNIA MAGNA 10800 MG/L
		48 HR LC50 DAPHNIA MAGNA 9268 - 14221 MG/L
		48 HR EC50 DAPHNIA MAGNA 13299 MG/L
		72 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L
		96 HR EC50 DESMODESMUS SUBSPICATUS > 1000 MG/L

Section 13 Disposal Information

Disposal Methods:	Dispose in accordance with all applicable Federal, State and Local regulations. Always contact a permitted waste disposer (TSD) to assure compliance.
Waste Disposal Code(s):	If discarded, this product is considered a RCRA ignitable waste, D001.

Section 14 Transport Information

Ground - DOT Proper Shipping Name:
UN1170
Ethanol Solutions
Class 3
P.G. II

Air - IATA Proper Shipping Name:
UN1170
Ethanol Solutions
Class 3
P.G. II

Section 15 Regulatory Information

TSCA Status: All components in this product are on the TSCA Inventory.

Chemical Name	CAS Number	§ 313 Name	§ 304 RQ	CERCLA RQ	§ 302 TPQ	CAA 112(2) TQ
Methanol	67-56-1	Methanol	No	5000 lb final RQ; 2270 kg final RQ	No	No

California Prop 65: WARNING: This product contains a chemical known to the state of California to cause cancer and birth defects or other reproductive harm.

Section 16 Additional Information

Revised: 03/05/2013 **Replaces: 02/26/2013** **Printed: 03-08-2013**

The information provided in this (Material) Safety Data Sheet represents a compilation of data drawn directly from various sources available to us. Carolina Biological Supply makes no representation or guarantee as to the suitability of this information to a particular application of the substance covered in the (Material) Safety Data Sheet.

Glossary

ACGIH	American Conference of Governmental Industrial Hygienists	NTP	National Toxicology Program
CAS	Chemical Abstract Service Number	OSHA	Occupational Safety and Health Administration
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act	PEL	Permissible Exposure Limit
DOT	U.S. Department of Transportation	ppm	Parts per million
IARC	International Agency for Research on Cancer	RCRA	Resource Conservation and Recovery Act
N/A	Not Available	SARA	Superfund Amendments and Reauthorization Act
		TLV	Threshold Limit Value
		TSCA	Toxic Substances Control Act
		IDLH	Immediately dangerous to life and health

SECTIONS 12 through 15
identify ecological information, disposal considerations, transport information, and regulatory information. However, these environmental sections are not regulated or enforced by OSHA, therefore may not appear on all SDSs.

SECTION 16, *Other Information*, identifies the date of preparation or last revision of the SDS.

ILWU / PMA
PACIFIC COAST MARINE SAFETY COMMITTEE