



HI-VALLEY CHEMICAL

LABORATORY PRODUCTS

1134 W. 850 N. CENTERVILLE, UT 84014
(801) 295-9591 Fax (801) 295-9448
www.hvchemical.com

SAFETY DATA SHEET

Hi Valley Chemical

Ethyl Alcohol, Denatured 190 Proof

1 PRODUCT AND COMPANY IDENTIFICATION

Product Identifier: Ethyl Alcohol, Denatured 190 Proof
Synonyms: Denatured alcohol, ethanol, denatured alcohol 190 proof
SDS Number: R-006
Product Code: 513700-pt; 513700-qt; 513700-1; 513700-5, 513700-55
Revision Date: 4/14/2016
Version: 1.1
Chemical Formula: C₂H₆O
Product Use: Industrial or laboratory
Supplier Details: High Valley Products, Inc.
 1134 West 850 North
 Centerville, Utah 84014
Emergency: PERS: 800-633-8253
Phone: 801-295-9591
Email: sales@hvchemical.com
Web: www.hvchemical.com

2 HAZARDS IDENTIFICATION

Classification of the Substance or Mixture

GHS Classification in Accordance with 29 CFR 1910 (OSHA HCS):

- Physical, Flammable Liquids, 2
- Health, Acute toxicity, 4 Oral
- Health, Skin corrosion/irritation, 2
- Health, Serious Eye Damage/Eye Irritation, 2 B
- Health, Specific target organ toxicity - Single exposure, 1

GHS Label Elements, Including Precautionary Statements

GHS Signal Word: **DANGER**

GHS Hazard Pictograms:



GHS Hazard Statements:

- H225 - Highly flammable liquid and vapor
- H302 - Harmful if swallowed
- H315 - Causes skin irritation
- H320 - Causes eye irritation
- H370 - Causes damage to organs

GHS Precautionary Statements:

- P210 - Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P233 - Keep container tightly closed.
- P240 - Ground/bond container and receiving equipment.
- P241 - Use explosion-proof electrical/ventilating/light/equipment.
- P242 - Use only non-sparking tools.
- P243 - Take precautionary measures against static discharge.
- P260 - Do not breathe dust/fume/gas/mist/vapors/spray.

P280 - Wear protective gloves/protective clothing/eye protection/face protection.
P301+310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P303+361+353 - IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P307+311 - IF exposed: Call a POISON CENTER or doctor/physician.
P370+378 - In case of fire: Use _ for extinction.
P403+235 - Store in a well ventilated place. Keep cool.
P501 - Dispose of contents/container to _

3 COMPOSITION/INFORMATION ON INGREDIENTS

Ingredients:

Cas#	%	Chemical Name
64-17-5	95%	Ethanol
67-56-1	5%	Methanol

4 FIRST AID MEASURES

Inhalation: If inhaled, move person to fresh air. If not breathing, give artificial respiration. Consult a physician.
Skin Contact: Promptly flush skin with water until all chemical is removed.
Remove contaminated clothing immediately.
If irritation persists get medical attention.
Eye Contact: Immediately flush eyes with large amounts of water for at least 15 minutes, lifting eyelids occasionally to facilitate irrigation.
If irritation persists, seek medical attention.
Ingestion: If victim is conscious and alert, give 2-4 cupfuls of water or milk. Never give anything by mouth to an unconscious person. Get medical attention. If victim is conscious and alert, give 2-4 cupfuls of water or milk. Never give anything by mouth to an unconscious person. Get medical attention immediately. Induce vomiting by giving one teaspoon of Syrup of Ipecac.

Note to Physician

Symptoms will vary with alcohol level of the blood. Mild alcohol intoxication occurs at blood levels between 0.05-0.15%. Approximately 25% of individuals show signs of intoxication at these levels. Above 0.15% the person is definitely under the influence of ethanol; 50-95% of individuals are clinically intoxicated at these levels. Severe poisoning occurs when the blood is ethanol level is 0.3- 0.5%. Above 0.5% the individual will be comatose and death can occur. The unabsorbed ethanol should be removed by gastric lavage after intubating the patient to prevent aspiration. Avoid the use of depressant drugs and administering excessive amounts of fluids.

5 FIRE FIGHTING MEASURES

Flammability: Flammable
Flash Point: 14°C (57°F)
Flash Point Method: Closed cup
Autoignition Temp: 363°C (685°F) - (for 100% ethyl alcohol)

Extinguishing Media:

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide. Use water spray to cool unopened containers.

Protective equipment and precautions for firefighters:

Wear self-contained breathing apparatus and other protective clothing.

Specific hazards arising from the chemical:

May produce a floating fire hazard.

| Static ignition hazard can result from handling and use.

| Vapors may travel to source of ignition and flash back.

| Vapors may settle in low or confined spaces.

Alcohols burn with a pale blue flame which may be extremely hard to see under normal lighting conditions.

Personnel may only be able to feel the heat of the fire without seeing flames. Extreme caution must be exercised in fighting alcohol fires. Fight fire from maximum distance or use unmanned hose holders or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Withdraw immediately in case of rising sound from venting safety devices or discoloration of tank. Always stay away from tanks engulfed in fire.

6 ACCIDENTAL RELEASE MEASURES

Personal precautions:

Do not inhale vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

Environment precautions:

Stop leak and contain if safe to do so. Prevent material from entering drains.

Containment and clean up:

Highly flammable liquid. Eliminate all sources of ignition. All equipment used when handling this product must be grounded. A vapor suppressing foam may be used to reduce vapors. Do not touch or walk through spilled material. Contain spillage, and then collect with non-combustible absorbent material, (e.g. sand, earth, diatomaceous earth, vermiculite) and place in container for disposal according to local / national regulations. Use non sparking tools to collect absorbed material.

7**HANDLING AND STORAGE****Handling Precautions:**

Do not get on skin or in eyes. Do not inhale vapor or mist. Keep away from sources of ignition. NO smoking. Take measures to prevent the buildup of electrostatic charge. Metal containers should be grounded.

Storage Requirements:

Keep away from heat, sparks, and flames. Store in cool/dry area.

8**EXPOSURE CONTROLS/PERSONAL PROTECTION****Engineering Controls:**

Use explosion -proof ventilation equipment to stay below exposure limits. Provide adequate ventilation. Provide eyewash station and safety shower.

Personal Protective Equipment:

Personal protective equipment

Eye/face protection: Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection: Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching gloves outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact: Material: butyl-rubber Minimum layer thickness: 0.3 mm Break through time: 480 min
Material tested: Butoject (KCL 897 / Aldrich Z677647, Size M)

Splash contact: Material: Nitrile rubber Minimum layer thickness: 0.2 mm Break through time: 38 min
Material tested: Dermatril P (KCL 743 / Aldrich Z677388, Size M) data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374 If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: impervious clothing, Flame retardant antistatic protective clothing, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: Where risk assessment shows air-purifying respirators are appropriate use a full-face respirator with multi- purpose combination (US) or type ABEK (EN 14387) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Ethanol (64-17-5) [95%]

Components with workplace control parameters

TWA 1,000 ppm USA. ACGIH Threshold Limit Values (TLV)

Upper Respiratory Tract irritation

Confirmed animal carcinogen with unknown relevance to humans

TWA 1,000 ppm USA. Occupational Exposure Limits (OSHA) - Table Z-1 Limits for Air Contaminants
1,900 mg/m3

The value in mg/m3 is approximate.

TWA 1,000 ppm USA. NIOSH Recommended Exposure Limits
1,900 mg/m3

Methanol (67-56-1) [5%]

Components with workplace control parameters

TWA 200 ppm USA. ACGIH Threshold Limit Values (TLV)
Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI section) Danger of cutaneous absorption

STEL 250 ppm USA. ACGIH Threshold Limit Values (TLV)
Headache Eye damage Substances for which there is a Biological Exposure Index or Indices (see BEI section) Danger of cutaneous absorption

TWA 200 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
260 mg/m3 1910.1000
Skin notation

STEL 250 ppm USA. OSHA - TABLE Z-1 Limits for Air Contaminants -
325 mg/m3 1910.1000
Skin notation

TWA 200 ppm USA. Occupational Exposure Limits (OSHA) - Table Z- 1
260 mg/m3 Limits for Air Contaminants
The value in mg/m3 is approximate.

TWA 200 ppm USA. NIOSH Recommended Exposure Limits
260 mg/m3
Potential for dermal absorption

ST 250 ppm USA. NIOSH Recommended Exposure Limits
325 mg/m3
Potential for dermal absorption

9

PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Colorless	Odor:	Characteristic
Physical State:	Liquid	Solubility:	Completely soluble in water.
Odor Threshold:	No data available	Freezing/Melting Pt.:	-114°C (-173°F) (for 100% ethyl alcohol)
Spec Grav./Density:	0.79	Flash Point:	14°C (57°F) - closed cup
Viscosity:	No data available	Vapor Density:	1.6 (air =1)
Boiling Point:	78°C (173°F) (for 100% ethyl alcohol)	Auto-Ignition Temp:	363°C (685.4°F) - (Ethyl Alcohol)
Flammability:	Flammable	UFL/LFL:	3.3%(V) / 19%(V)
Partition Coefficient:	No data available		
Vapor Pressure:	6.4 kPa (48 mmHg) at 20 °C (68 °F) (for 100%)		
pH:	No data available		
Evap. Rate:	3.2 (buyl acetate = 1)		
Decomp Temp:	No data available		

10

STABILITY AND REACTIVITY

Chemical Stability:	Stable under normal conditions.
Conditions to Avoid:	Excessive heat or cold.
Materials to Avoid:	Strong Oxidizing Agents. Strong Acids;
Hazardous Decomposition:	Carbon oxides are expected to be, under fire conditions, the primary hazardous decomposition products.
Hazardous Polymerization:	No data available.

11

TOXICOLOGICAL INFORMATION

Ethanol (64-17-5) [95%]

Information on toxicological effects

Acute toxicity:

LD50 Oral - rat - 7,060 mg/kg Remarks: Lungs, Thorax, or Respiration:Other changes.

LC50 Inhalation - rat - 10 h - 20000 ppm

Dermal: no data available

Skin corrosion/irritation: Skin - rabbit Result: No skin irritation - 24 h (OECD Test Guideline 404)

Serious eye damage/eye irritation: Eyes - rabbit Result: Mild eye irritation - 24 h (OECD Test Guideline 405)

Respiratory or skin sensitisation: no data available

Germ cell mutagenicity: no data available

Carcinogenicity:

Carcinogenicity - mouse - Oral:

Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Liver: Tumors. Blood: Lymphomas including Hodgkins disease.

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: no data available

Reproductive toxicity - Human - female - Oral:

Effects on Newborn: Apgar score (human only). Effects on Newborn: Other neonatal measures or effects. Effects on Newborn: Drug dependence.

Specific target organ toxicity - single exposure: no data available

Specific target organ toxicity - repeated exposure: no data available

Aspiration hazard: no data available

Additional Information:

RTECS: KQ6300000

Central nervous system depression, narcosis, Damage to the heart., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Stomach - Irregularities - Based on Human Evidence

Methanol (67-56-1) [5%]

Information on toxicological effects

Acute toxicity:

Oral LD50 LDLO Oral - Human - 143 mg/kg Remarks: Lungs, Thorax, or Respiration:Dyspnea. Ingestion may cause gastrointestinal irritation, nausea, vomiting and diarrhoea.

LD50 Oral - rat - 1,187 - 2,769 mg/kg

Inhalation LC50 LC50 Inhalation - rat - 4 h - 128.2 mg/l

LC50 Inhalation - rat - 6 h - 87.6 mg/l

Dermal LD50 LD50 Dermal - rabbit - 17,100 mg/kg

Other information on acute toxicity no data available

Skin corrosion/irritation: Skin - rabbit - No skin irritation

Serious eye damage/eye irritation: Eyes - rabbit - No eye irritation

Respiratory or skin sensitisation: Maximisation Test - guinea pig - OECD Test Guideline 406 - Does not cause skin sensitisation.

Germ cell mutagenicity: Genotoxicity in vitro - Ames test - *S. typhimurium* - with and without metabolic activation - negative Genotoxicity in vitro - in vitro assay - fibroblast - negative Mutation in mammalian somatic cells.

Genotoxicity in vivo - mouse - male and female - Intraperitoneal - negative

Carcinogenicity:

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

Reproductive toxicity: Fertility classification not possible from current data.

Teratogenicity: Damage to fetus not classifiable

Specific target organ toxicity - single exposure (Globally Harmonized System):
Causes damage to organs.

Specific target organ toxicity - repeated exposure (Globally Harmonized System):
The substance or mixture is not classified as specific target organ toxicant, repeated exposure.

Aspiration hazard: No aspiration toxicity classification

Potential health effects: Inhalation Toxic if inhaled. May cause respiratory tract irritation. Ingestion Toxic if swallowed. Skin Toxic if absorbed through skin. May cause skin irritation. Eyes May cause eye irritation.

Signs and Symptoms of Exposure: Methyl alcohol may be fatal or cause blindness if swallowed. Effects due to ingestion may include:, Headache, Dizziness, Drowsiness, metabolic acidosis, Coma, Seizures. Symptoms may be delayed., Damage of the:, Liver, Kidney

Synergistic effects: no data available

Additional Information:

RTECS: PC1400000

Ethanol (64-17-5) [95%]

Information on ecological effects

Toxicity: no data available

Persistence and degradability: no data available

Bioaccumulative potential: no data available

Mobility in soil: no data available

Results of PBT and vPvB assessment PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Other adverse effects: no data available

Methanol (67-56-1) [5%]

Information on ecological effects

Toxicity:

Toxicity to fish mortality LC50 - *Lepomis macrochirus* (Bluegill) - 15,400.0 mg/l - 96 h.

NOEC - *Oryzias latipes* - 7,900 mg/l - 200 h

Toxicity to daphnia EC50 - *Daphnia magna* (Water flea) - > 10,000.00 mg/l - 48 h.
and other aquatic invertebrates

Toxicity to algae Growth inhibition EC50 - *Scenedesmus capricornutum* (fresh water algae) - 22,000.0 mg/l - 96 h

Persistence and degradability: Biodegradability aerobic Result: 72 % - rapidly biodegradable

Bioaccumulative potential: Bioaccumulation *Cyprinus carpio* (Carp) - 72 d at 20 °C Bioconcentration factor (BCF): 1.0

Mobility in soil: Will not adsorb on soil.

PBT and vPvB assessment: Results of PBT This substance is not considered to be persistent, bioaccumulating nor toxic (PBT)., This assessment substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Other adverse effects: Biochemical Oxygen 600 - 1,120 mg/g Demand (BOD)

Chemical Oxygen 1,420 mg/g Demand (COD)

Additional ecological Avoid release to the environment. information

Ethanol (64-17-5) [95%]

Waste treatment methods

Product: Contact a licensed professional waste disposal service to dispose of this material. Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging: Dispose of as unused product.

Methanol (67-56-1) [5%]

Waste treatment methods

Product: Burn in a chemical incinerator equipped with an afterburner and scrubber but exert extra care in igniting as this material is highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

Contaminated packaging: Dispose of as unused product.

14 TRANSPORT INFORMATION

UN1987, Alcohols, n.o.s., 3, PGIII, (Ethanol, Methanol)

15 REGULATORY INFORMATION

Component (CAS#) [%] - CODES

Ethanol (64-17-5) [95%] MASS, OSHAWAC, PA, TSCA, TXAIR

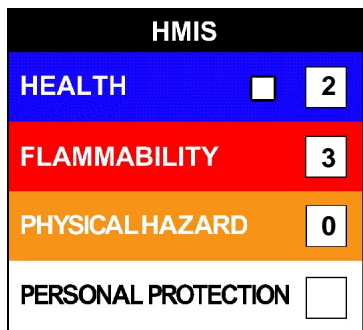
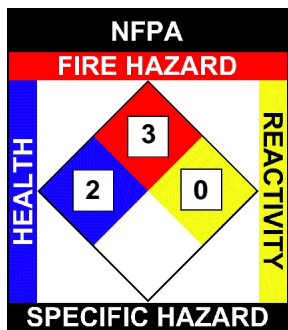
RQ(5000LBS), Methanol (67-56-1) [5%] CERCLA, HAP, MASS, NJHS, OSHAWAC, PA, SARA313, TOXICRCRA, TSCA, TXAIR, TXHWL

Regulatory CODE Descriptions

- RQ = Reportable Quantity
- MASS = MA Massachusetts Hazardous Substances List
- OSHA = OSHA Workplace Air Contaminants
- PA = PA Right-To-Know List of Hazardous Substances
- TSCA = Toxic Substances Control Act
- TXAIR = TX Air Contaminants with Health Effects Screening Level
- CERCLA = Superfund clean up substance
- HAP = Hazardous Air Pollutants
- NJHS = NJ Right-to-Know Hazardous Substances
- SARA313 = SARA 313 Title III Toxic Chemicals
- TOXICRCRA = RCRA Toxic Hazardous Wastes (U-List)
- TXHWL = TX Hazardous Waste List

16 OTHER INFORMATION

NFPA: Health = 2, Fire = 3, Reactivity = 0, Specific Hazard = n/a
HMIS III: Health = 2, Fire = 3, Physical Hazard = 0



Disclaimer:

Although reasonable care has been taken in the preparation of this document, we extend no warranties and make no representations as to the accuracy or completeness of the information contained herein, and assume no responsibility regarding the suitability of this information for the user's intended purposes or for the consequences of its use. Each individual should make a determination as to the suitability of the information for their particular purpose(s).

Author: HVC
Publication Date: 8/11/15
Revision No.1.0