



5515 North Service Rd. #306
Burlington, Ontario L7L 6G4

Phone: 905-337-7411
Fax: 905-337-1686

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1. PRODUCT IDENTIFICATION

Name: *2-Ethylhexyl Alcohol*

Synonyms: *2-ethyl-1-hexanol, 2-ethylhexanol, 2-ethylhexan-1-ol, and variants*

CAS# 104-76-7

Product Uses: *dye, oil, resin ink & coatings solvent, textile mercerizing, mfg. of PVC plasticizer, etc*

Supplier *Megaloid Laboratories Limited*
Identifier: *5515 North Service Road, Ste 306
Burlington, Ontario, Canada
L7L 6G4
Phone: 905-337-7411 / Fax: 905-337-1686*

EMERGENCY INFORMATION: Call CHEMTREC - (800) 424-9300 (CCN# 693764)

2. HAZARDS

GHS Class <i>(category)</i>	Flammable <i>(4)</i>	Skin irritant <i>(2)</i>	Eye irritant <i>(2A)</i>	acute inhalation <i>(4)</i>	STOT <i>(3)</i>
Signal Word	WARNING				
Hazard Statements	<i>Combustible liquid (H227)</i>	<i>Causes skin irritation (H315)</i>	<i>Causes serious eye irritation (H319)</i>	<i>Harmful if inhaled (H332)</i>	<i>May cause dizziness or drowsiness (H336)</i>



Label Pictograms

GHS Precautionary Statements for Labelling

Prevention

- P210** Keep away from heat, sparks, open flames and hot surfaces. No smoking.
- P261** Avoid breathing vapours.
- P264** Wash hands thoroughly after handling.
- P271** Use only outdoors or in a well-ventilated area.
- P273** Avoid release to the environment.



P280	Wear eye protection, protective gloves and clothing of butyl rubber
Response	
P302, P352	IF ON SKIN: Wash with plenty of water.
P304, P340	IF INHALED: remove person to fresh air and keep comfortable for breathing.
P305, P351, P338	IF IN EYES: rinse continuously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P312	Call a POISON CENTRE or doctor if you feel unwell.
P332, P313	IF SKIN IRRITATION OCCURS: Get medical advice/attention.
P337, P313	IF EYE IRRITATION PERSISTS: Get medical advice/attention.
P362, P364	Take off contaminated clothing and wash it before reuse.
P370, P378	IN CASE OF FIRE: Use appropriate foam, dry chemical powder, water spray or fog to extinguish.
Storage	
P403, P233	Store in a well-ventilated place. Keep container tightly closed.
P403, P235	Store in a well-ventilated place. Keep cool.
P405	Store locked up.
Disposal	
P501	Dispose of contents and container in accordance with local, regional, national and international regulations.

3. COMPOSITION

Chemical Name:	CAS No.	%	Other Identifiers
2-Ethyl-1-hexanol	104-76-7	100	EC # 203-234-3

4. FIRST AID

Inhalation

Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.

Skin Contact

Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.

Eye Contact

Wash eyes with plenty of water, holding eyelids open. Seek medical assistance if there is any irritation.

Ingestion

Give plenty of water to dilute product. Do not induce vomiting (NOTE below). Keep victim quiet. If vomiting occurs, lower victim's head below hips to prevent inhalation of vomited



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material. Seek medical help promptly.

First-aid Comments

Inadvertent inhalation of vomited material may seriously damage the lungs. The danger of this is greater than the risk of poisoning through absorption of this relatively low-toxicity substance. The stomach should only be emptied under medical supervision, and after the installation of an airway to protect the lungs.

5. FIRE FIGHTING & FLAMMABILITY

Extinguishing Media

Suitable Extinguishing Media

Foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water - water jet spreads flames

Combustion Products

Carbon monoxide, nitrogen oxides, smoke, part oxidized hydrocarbon fragments

Special Protective Equipment and Precautions for Fire-fighters

Firefighters must wear SCBA. Fire-fighters may enter the area if positive pressure SCBA and full Bunker Gear is worn.

Static Charge Accumulation

Cannot accumulate a static charge on agitation or pumping

6. ACCIDENTAL RELEASE MEASURES

Personal Precautions, Protective Equipment, and Emergency Procedures

Restrict access to area until completion of cleanup. Ensure cleanup is conducted by trained personnel only. Do not touch damaged containers or spilled product unless wearing appropriate protective equipment. Ventilate area. Extinguish or remove all ignition sources. Notify government occupational health and safety and environmental authorities.

Environmental Precautions

It is good practice to prevent releases into the environment. Do not allow into any sewer, on the ground or into any waterway. If the spill is inside a building, prevent product from entering drains, ventilation systems and confined areas.

Methods and Materials for Containment and Cleaning Up

Leak Precaution: dyke to control spillage and prevent environmental contamination

Handling Spill: Ventilate contaminated area; recover free liquid with suitable pumps; absorb residue on an inert sorbent, sweep & pick up using plastic or aluminium shovel, & store in closed containers for recycling or disposal.

Other Information

Report spills to local health, safety and environmental authorities, as required.

7. HANDLING & STORAGE



Precautions for Safe Handling - Acetone

Avoid creating or breathing product vapour. If vapour is created in use, install adequate exhaust ventilation. Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or full, are tightly sealed unless in use. Always ground or electrically bond the source container, receiving container & pump before transferring contents. Avoid splashing by ensuring that the product nozzle is below the surface in the receiving container. All electrical & mechanical equipment (including lighting, switchgear & forklift trucks) used with or around this product must be explosion-proof. Limit contact with skin & wash work clothes frequently.

Never cut, drill, weld or grind on or near this container. Avoid contact with skin & wash work clothes frequently. An eye bath must be available near the workplace.

Conditions for Safe Storage

Store & use in a cool, dry environment, away from sources of ignition & oxidising agents.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Ontario TWAEV not listed
AGGIH TLV not listed
OSHA PEL not listed

Ontario STEV not listed
ACGIH STEL not listed
OSHA STEL not listed

Ventilation	Mechanical ventilation may be required to control airborne titre; depending on handling procedures
Hands	butyl, neoprene or "Viton" gloves – <i>always confirm suitability with supplier</i>
Eyes	Safety glasses with side shields – always protect the eyes
Clothing	wear impermeable (above) apron, boots, & long sleeves if there is any danger of splashing

Appropriate Engineering Controls

Good general ventilation (typically 10 air changes per hour) should be sufficient to control airborne levels. Ensure adequate ventilation.

9. PHYSICAL PROPERTIES

Appearance	Clear colourless liquid.
Odour	musty odour
Odour threshold	0.075ppm – 0.140ppm
pH	7
Melting Point/Freezing Point	-70°C / -94°F; <i>also reported at -76°C / -105°F</i>



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Initial Boiling Point/Range	185°C / 364°F
Flash Point	73°C / 164°F (closed cup)
Evaporation Rate	0.0018 – <i>not considered volatile</i> (Butyl Acetate =1)
Vapor Density (air = 1)	4.5 Literature
Relative Density (water = 1)	0.8335 at 20 °C / 20 °C Literature
Flammability (Solid, Gas)	Not Available
Upper/Lower Flammability or Explosive Limit	0.9% – 9.7%
Vapour Pressure	0.108mmHg / 0.014kPa (20°C/ 68°F); 0.136 mmHg / 0.018 kPa (25°C / 77°F)
Water Solubility	0.7 – 1.0 grams per litre (20°C / 68°F) – <i>various solubility values given. Also soluble in aliphatic & aromatic hydrocarbons, ethanol, chloroform, diethyl ether, & other organics</i>
Partition Coefficient, n-Octanol/Water (Log Kow)	2.73 (estimated)
Auto-ignition Temperature	231°C / 448°F – <i>other published values include 270°C, 305°C, & 330°C</i>
Conversion Factor	1ppm =5.32 mg/m ³
Viscosity	9.8centipoise (20°C / 68°F); 7.7centipoises (25°C / 77°F)
Physical State	Liquid
Molecular Weight	130 grams per mole
Molecular Formula	C8-H18-O

10. REACTIVITY

Dangerously Reactive strong oxidising agents; halogens (chlorine, bromine), explodes on contact with potassium metal in air, isocyanates.

Also Reactive acids, acid anhydrides, acid chlorides, lithium aluminum hydride; attacks polyurethane.

Chemical Stability

Stable under recommended storage conditions.

Possibility of Hazardous Reactions

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Polymerization will not occur.

Conditions to Avoid

Exposure to elevated temperatures can cause product to decompose.

Mechanical Impact

no

11. TOXICITY

Acute Toxicity	
LD₅₀ (oral)	1520–7000mg/kg (rat, several tests); 1220-2820mg/kg (guinea pig), 1180 & 1470mg/kg (rabbit) 2500-4460mg/kg (mouse, several tests)
LD₅₀ (skin)	1980 & >2600mg/kg (rabbit), >3000mg/kg (rat)
LC₅₀ (inhalation)	167ppm (rat), 44ppm (mouse)

Skin Corrosion/Irritation

May be irritating; caused severe skin irritation in rabbits.

Serious Eye Damage/Irritation

May be severely irritating, may damage eyes – *caused severe eye irritation in rabbits.*

STOT (Specific Target Organ Toxicity) - Single Exposure

Inhalation

May irritate but low vapour pressure makes this action unlikely

Skin Absorption

Slight; no toxic effects likely by this route.

Ingestion

Not known – likely to irritate mouth, throat, stomach; not a route of industrial exposure.

STOT (Specific Target Organ Toxicity) - Repeated Exposure

Prolonged exposure may cause dermatitis

Respiratory and/or Skin Sensitization

Not a sensitiser in humans or animals

Carcinogenicity

Not considered a carcinogen in humans or animals. IARC: Not specifically listed. ACGIH®: Not specifically designated. NTP: Not specifically listed. OSHA: Not specifically listed.

Reproductive Toxicity

Development of Offspring

no known effect in humans or animals



Germ Cell Mutagenicity
Not known to be a mutagen.

12. ECOLOGICAL INFORMATION

Bioaccumulation	Not a bioaccumulator.
Persistence and Degradability	<p>Biodegradation - biodegrades rapidly in the presence of oxygen: >79% in 2 weeks, 95% in 5days, 97% in 7 days</p> <p>Abiotic Degradation - reacts with atmospheric hydroxyl (OH) radicals; estimated ½-life in air is 1.2 days</p>
Mobility in soil, water	water soluble; moves readily in soil & water
Aquatic Toxicity	
LC50 (Fish, 96hr)	27-30mg/litre (Pimephales promelas), 17mg/litre (Leuciscus idus melanotus), 32-37mg/litre (Oncorhynchus mykiss)
EC50 (Crustacea, 48hr)	39mg/litre (Daphnia magna), 19mg/litre (Artemia salina, 24hr)
EC50 (Algae, 72hrs)	10-50mg/litre (Chlorella emersonii, 48hr), 11.5 & 13.3mg/litre (Desmodesmus subspicatus)
EC10 (Microorganisms)	540mg/litre (Pseudomonas putida) – <i>NOTE: this is an EC₁₀, not an EC₅₀</i>

13. DISPOSAL

Water Disposal

Do not flush to sewer, recycle solvent if possible, may be incinerated in approved facility.

Containers

Drums should be reused. Recondition and pressure test by a licensed reconditioner prior to re-use.

Pails must be vented and thoroughly dried prior to crushing and recycling.

IBCs (intermediate bulk containers): polyethylene bottle must be pressure tested & recertified at 30 months. Replace at 60 months (5yrs).

Steel containers must be inspected, pressure tested & recertified every 5 years.

Never cut, drill, weld or grind on or near this container, even if empty

14. TRANSPORT CLASSIFICATION



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Canada TDG	PIN	Not regulated for transport	
U.S.A. 49 CFR	PIN Shipping Name	NA1993 Combustible liquid, n.o.s. (2-ethylhexanol)	
U.S.A. 49 CFR	Class & Packing Group	Combustible, PG III	
Marine Pollutant	Not a Marine Pollutant		
ERAP Required	NO		
Reportable Quantity	NO		
E R G No.	128		

Important Note: Shipping descriptions may vary based on mode of transport, quantities, package size, and/or origin and destination. Consult your company's Hazardous Materials/Dangerous Goods expert for information specific to your situation.

15. REGULATIONS

Canada DSL	On Inventory
U.S.A. TSCA	On Inventory
Europe EINECS	On Inventory

Canadian Regulations

CEPA - National Pollutant Release Inventory (NPRI)

Not specifically listed.

U.S.A. Regulations

Allowable Tolerances: Residues of 2-ethyl-1-hexanol are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Use: Solvent, adjuvant of surfactants. Limit: Not more than 10% of pesticide. Residues of 2-ethyl-1-hexanol are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals. Use: Solvent, adjuvant of surfactants. Limit: Not more than 10% of pesticide.

Threshold Limit Values: 2E1H concentrations in Building A, which exceeded the Japanese recommended threshold of total VOCs (400 ug/cu m) in some measurements, tended to be lower in winter and higher in summer, and did not show any tendency for decrease over time. No association was found between indoor concentrations of phthalate esters and those of 2E1H.



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Atmospheric Standards: This action promulgates standards of performance for equipment leaks of Volatile Organic Compounds (VOC) in the Synthetic Organic Chemical Manufacturing Industry (SOCMI). The intended effect of these standards is to require all newly constructed, modified, and reconstructed SOCMI process units to use the best demonstrated system of continuous emission reduction for equipment leaks of VOC, considering costs, non-air quality health and environmental impact and energy requirements. 2-Ethylhexanol is produced, as an intermediate or a final product, by process units covered under this subpart.

TSCA Requirements: Pursuant to section 8(d) of TSCA, EPA promulgated a model Health and Safety Data Reporting Rule. The section 8(d) model rule requires manufacturers, importers, and processors of listed chemical substances and mixtures to submit to EPA copies and lists of unpublished health and safety studies. 2-Ethyl-1-hexanol is included on this list. Effective date: 6/1/87; Sunset date: 12/19/95.

FIFRA Requirements: Residues of 2-ethyl-1-hexanol are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to growing crops or to raw agricultural commodities after harvest. Use: Solvent, adjuvant of surfactants. Limit: Not more than 10% of pesticide. Residues of 2-ethyl-1-hexanol are exempted from the requirement of a tolerance when used in accordance with good agricultural practice as inert (or occasionally active) ingredients in pesticide formulations applied to animals. Use: Solvent, adjuvant of surfactants. Limit: Not more than 10% of pesticide.

SARA 302/304 - This product contains no known chemicals regulated under SARA 302.

SARA 311/312 - Based upon available information, this material is classified as the following health and/or physical hazards according to Section 311 & 312: Fire Hazard & Acute Health Hazard

SARA 313 - This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA 313.

US State Regulations

Chemicals associated with the product which are subject to the state right-to-know regulations are listed along with the applicable state(s):

Pennsylvania – Listed (CAS # 104-76-7)
New Jersey – Listed (CAS # 104-76-7)
Massachusetts – Listed (CAS # 104-76-7)

International Regulations

International Inventories - Listed on the chemical inventories of the following countries or qualifies for an exemption:

Australia (AICS)
China (IECSC)
Japan (ENCS)
Korea (KECI)
New Zealand (NZIoC)
Philippines (PICCS)



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Taiwan (TCSI)

16. OTHER INFORMATION

NFPA RATING	Health 2	Flammability 2	Instability 0
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Prepared for Megaloid Laboratories Limited by Richard Koscher

Preparation Date: September 2009

Revision Dates: September 2012, September 2015, August 2018

Key to Abbreviations	<p>ACGIH® = American Conference of Governmental Industrial Hygienists AIHA® = AIHA® Guideline Foundation HSDB® = Hazardous Substances Data Bank IARC = International Agency for Research on Cancer NFPA = National Fire Protection Association NIOSH = National Institute for Occupational Safety and Health NIOSH = National Institutur for Occupational Safety and Health NTP = National Toxicology Program OSHA = US Occupational Safety and Health Administration RTECS® = Registry of Toxic Effects of Chemical Substances</p>
References	<p>CHEMINFO database. Canadian Centre for Occupational Health and Safety (CCOHS). HSDB® database. US National Library of Medicine. Available from Canadian Centre for Occupational Health and Safety (CCOHS). NIOSH Pocket Guide database. National Institute for Occupational Safety and Health. Available from Canadian Centre for Occupational Health and Safety (CCOHS). Registry of Toxic Effects of Chemical Substances (RTECS®) database. Dassault Systèmes/BIOVIA ("BIOVIA"). Available from Canadian Centre for Occupational Health and Safety (CCOHS).</p>
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