



Safety Data Sheet

1. PRODUCT IDENTIFICATION

Name	Ethyl 3-Ethoxypropionate
Synonyms	3-ethoxypropionic acid, ethyl ester; ethyl <i>beta</i> -ethoxypropionate; propionic acid, 3-ethoxy, ethyl ester
CAS#	763-69-9
Europe EC#	212-112-9
Product Uses	solvent in coatings, chemical synthesis

2. HAZARDS

Quick Guide: flammable liquid, heavy vapour may travel, distant ignition and flashback are possible; slightly irritating

Canada – WHMIS

Key:

B 3

B 2 – Flash Point <38°C, **B 3** – Flash Point >38°C & <93°C

D 1 – Immediately Toxic, **D 2** – Chronic Toxicity

C – Oxidising Substance, **E** – Corrosive, **F** – Reactive Substance



B3 – Combustible Liquid

U.S.A. – HMIS

Key:

Health – 1, Fire – 2, Reactivity – 0

0=minimal, 1=slight, 2=moderate, 3=serious, 4=severe

3. COMPOSITION

	%	TWAEV / TLV mg/m ³	LD ₅₀ (mg/kg) ORAL	LD ₅₀ (mg/kg) SKIN	LC ₅₀ ppm INHALATION
Ethyl 3-ethoxypropionate	100%	not listed	>3200	9500	not known

4. FIRST AID

SKIN:	Wash with plenty of water. Remove contaminated clothing and do not reuse until thoroughly laundered.
EYES:	Wash eyes with plenty of water, holding eyelids open. Seek medical assistance promptly if there is irritation.
INHALATION:	Remove from contaminated area promptly. CAUTION: Rescuer must not endanger himself! If breathing stops, administer artificial respiration and seek medical aid promptly.
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 material. Seek medical help promptly.

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

Flash Point	58°C / 136°F (closed cup)
Autoignition Temperature	377°C / 711°F
Flammable Limits	~1% – 8.7%
Combustion Products	carbon monoxide, nitrogen oxides, smoke, part oxidised hydrocarbon fragments
Firefighting Precautions	foam, dry chemical, water fog, water spray only to cool & dilute, product floats on water – water jet spreads flames; firefighters must wear SCBA
Static Charge Accumulation	cannot accumulate a static charge on agitation or pumping

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6. ACCIDENTAL RELEASE MEASURES

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, shovel & store in closed containers for recycling or disposal

7. HANDLING & STORAGE

Store in a cool, dry environment, away from sources of ignition, heat and oxidising agents. Empty containers may contain a flammable / explosive vapour. Always ensure that containers, whether empty or full, or part full, are tightly sealed unless in use.

Avoid breathing product vapour. Use with adequate ventilation. If dealing with a spill, and ventilation is impossible or impractical, wear a suitable respirator with organic vapour cartridge.

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

8. EXPOSURE CONTROL & PERSONAL PROTECTION

Ontario TWAEV	not listed
ACGIH TLV	not listed
OSHA PEL	not listed
Ventilation	mechanical ventilation may be required to clear the (<i>nauseatingly unpleasant</i>) odour of this product
Hands	no special hand protection required; polyvinyl alcohol gloves are resistant – <i>other types may also protect; consult supplier to confirm suitability</i>
Eyes	safety glasses with side shields – <i>always protect the eyes</i>
Clothing	no special protective clothing required

9. PHYSICAL PROPERTIES

Odour & Appearance	clear, colourless liquid with mild, sweetish, unpleasant odour
Odour Threshold	not known
Vapour Pressure	1.28mmHg / 0.17kPa (25°C / 77°F)
Evaporation Rate (<i>Butyl Acetate = 1</i>)	0.12
Vapour Density (air = 1)	5
Boiling Range	165-172°C / 329-342°F
Freezing Point	-50°C / -58°F
Specific Gravity	0.95 (20/20°C)
Water Solubility	~10 grams per litre (25°C / 77°F)
Also soluble in	most organic solvents
Viscosity	1.12centipoise (25°C / 77°F)
pH	none – (<i>does not liberate hydrogen ions when dissolved</i>)
Conversion Factor	1ppm = 5.97mg/m ³
Molecular Weight	146grams per mole

10. REACTIVITY

Dangerously Reactive With	strong oxidising agents; strong acids
Also Reactive With	none known
Stability	stable; will not polymerize
Decomposes in Presence of	not known
Decomposition Products	none apart from Hazardous Combustion Products
Sensitive to Mechanical Impact	no

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11. TOXICITY

Effects, Acute Exposure

Skin Contact	may be slightly irritating
Skin Absorption	yes; no toxic effects likely by this route
Eye Contact	may be slightly irritating; will not damage eyes
Inhalation	may irritate but low vapour pressure makes this action unlikely
Ingestion	not known, low toxicity – <i>not a route of industrial exposure</i>

Effects, Chronic Exposure

General	prolonged exposure may cause dermatitis & skin cracking; prolonged exposure of rats to 1000ppm, and to oral 1000mg/kg/day caused slight metabolic effects – <i>both doses are high and not relevant to industrial exposure – particularly inhalation due to disagreeable odour</i>
Sensitising	not a sensitiser in humans or animals
Carcinogen/Tumorigen	not considered a tumorigen or a carcinogen in humans or animals
Reproductive Effect	no known effect in humans or animals
Mutagen	no known effect on humans or animals
Synergistic With	not known
LD ₅₀ (oral)	3200-5000 & >5000mg/kg (rat)
LD ₅₀ (skin)	9500mg/kg (rabbit), >18,000mg/kg (guinea pig)
LC ₅₀ (inhalation)	>1220 & >2400ppm (rat),

12. ECOLOGICAL INFORMATION

Bioaccumulation	rapidly eliminated; cannot bioaccumulate
Biodegradation	biodegrades readily in the presence of oxygen; 35% in 21d, 43% in 28d & 59% in 20d (3 tests)
Abiotic Degradation	reacts with atmospheric hydroxyl radicals; estimated ½-life in air is 0.7 days
Mobility in soil, water	sufficiently water soluble to move readily & rapidly in soil & water
Aquatic Toxicity	
LC ₅₀ (Fish, 96hr)	62 & 88mg/litre (Pimephales promelas)
EC ₅₀ (Crustacea, 48hr)	95 & 970mg/litre (Daphnia magna), 95mg/litre (Gammarus fasciatus)
EC ₅₀ (Algae)	no data
EC ₅₀ (Bacteria)	>5000mg/litre (<i>activated sludge from industrial waste treatment</i>)

13. DISPOSAL

Waste 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. <i>Never cut, drill, weld or grind on or near this container, even if empty</i>

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14. TRANSPORT CLASSIFICATION

Canada TDG	PIN	UN-1993
AND	Shipping Name	FLAMMABLE LIQUIDS N.O.S. (ethyl 3-ethoxypropionate)
U.S.A. 49 CFR	Class	3
	Packing Group	III
Marine Pollutant		not a marine pollutant
ERAP Required		NO



EMERGENCY INFORMATION

Canada	Call CANUTEC (collect)	(613) 996-6666
U.S.A.	Call CHEMTREC	(800) 424-9300

15. REGULATIONS

Canada DSL	on inventory
U.S.A. TSCA	on inventory
Europe EINECS	on inventory

Europe Classification Flammable

Europe Risk Phrases **R: 10, 36** – Flammable. Irritating to eyes.

Europe Safety Phrases **S: 26** – In case of contact with eyes, rinse immediately with plenty of water & seek medical advice.

16. OTHER INFORMATION

Prepared for Megaloid Laboratories by Peter Bursztyn, (705) 734-1577

Data from RTECS, HSDB (Haz. Substance Data Base), Cheminfo (CCOHS), IUCLID Datasheets (ESIS – European Chem. Substance Info. System), & others.

Preparation Date: **December 2003** Revision Date: **December 2006, November 2009, November 2012**

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