Thermo Fisher SCIENTIFIC

SAFETY DATA SHEET

Creation Date 26-Oct-2010 Revision Date 19-Feb-2019 Revision Number 4

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Product identification

Product Description: <u>Ethyl acrylate, stabilized</u>

Cat No. : 117980000; 117980010; 117980025; 117980250; 117980100

Synonyms 2-Propenoic acid, ethyl ester.

 CAS-No
 140-88-5

 EC-No.
 205-438-8

 Molecular Formula
 C5 H8 O2

Reach Registration Number 01-2119459301-46

1.2. Relevant identified uses of the substance or mixture and uses advised against

Recommended Use Laboratory chemicals.

Sector of use SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites

Product category PC21 - Laboratory chemicals

Process categories PROC15 - Use as a laboratory reagent

Environmental release category ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)

Uses advised against No Information available

1.3. Details of the supplier of the safety data sheet

Company UK entity/business name

Fisher Scientific UK

Bishop Meadow Road, Loughborough, Leicestershire LE11 5RG, United Kingdom

EU entity/business name Acros Organics BVBA

Janssen Pharmaceuticalaan 3a

2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11 Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99 **CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

SECTION 2: HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

CLP Classification - Regulation (EC) No 1272/2008

Physical hazards

Flammable liquids Category 2 (H225)

Ethyl acrylate, stabilized

Revision Date 19-Feb-2019

Health hazards

Acute oral toxicity

Acute dermal toxicity

Acute Inhalation Toxicity - Vapors

Skin Corrosion/irritation

Serious Eye Damage/Eye Irritation

Skin Sensitization

Category 2 (H319)

Skin Sensitization

Category 1 (H317)

Specific target organ toxicity - (single exposure)

Category 3 (H335)

Environmental hazards

Chronic aquatic toxicity Category 3 (H412)

2.2. Label elements



Signal Word

Danger

Hazard Statements

- H225 Highly flammable liquid and vapor
- H315 Causes skin irritation
- H319 Causes serious eye irritation
- H317 May cause an allergic skin reaction
- H335 May cause respiratory irritation
- H302 Harmful if swallowed
- H312 Harmful in contact with skin
- H331 Toxic if inhaled
- H412 Harmful to aquatic life with long lasting effects

Precautionary Statements

- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection
- P312 Call a POISON CENTER or doctor/ physician if you feel unwell
- P302 + P350 IF ON SKIN: Gently wash with plenty of soap and water
- P304 + P340 IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
- P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
- P301 + P312 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
- P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking
- P240 Ground/Bond container and receiving equipment

2.3. Other hazards

Lachrymator (substance which increases the flow of tears) Stench

Ethyl acrylate, stabilized Revision Date 19-Feb-2019

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Ethyl acrylate	140-88-5	EEC No. 205-438-8	>95	Acute Tox. 4 (H302)
				Acute Tox. 4 (H312)
				Acute Tox. 3 (H331)
				Skin Irrit. 2 (H315)
				Eye Irrit. 2 (H319)
				Skin Sens. 1 (H317)
				STOT SE 3 (H335)
				Flam. Liq. 2 (H225)
				Aquatic Chronic 3 (H412)

Reach Registration Number	01-2119459301-46
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Full text of Hazard Statements: see section 16

SECTION 4: FIRST AID MEASURES

4.1. Description of first aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Get

medical attention.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical

attention is required.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation Move to fresh air. Immediate medical attention is required. Do not use mouth-to-mouth

method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. If

not breathing, give artificial respiration.

Self-Protection of the First Aider Ensure that medical personnel are aware of the material(s) involved, take precautions to

protect themselves and prevent spread of contamination.

4.2. Most important symptoms and effects, both acute and delayed

Breathing difficulties. May cause allergic skin reaction. Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

4.3. Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable Extinguishing Media

Water spray. Carbon dioxide (CO₂). Dry chemical. alcohol-resistant foam. Chemical foam. Cool closed containers exposed to fire

Ethyl acrylate, stabilized

with water spray.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Flammable. Vapors may form explosive mixtures with air. Vapors may travel to source of ignition and flash back. Containers may explode when heated. Vapors may form explosive mixtures with air.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO2).

5.3. Advice 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

6.1. Personal precautions, protective equipment and emergency procedures

Remove all sources of ignition. Take precautionary measures against static discharges. Use personal protective equipment. Ensure adequate ventilation. All equipment used when handling the product must be grounded. ELIMINATE all ignition sources (no smoking, flares, sparks or flames in immediate area). Do not breathe dust/fume/gas/mist/vapors/spray.

6.2. Environmental precautions

Do not flush into surface water or sanitary sewer system.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Prevent product from entering drains. Keep in suitable, closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment. Do not flush into surface water or sanitary sewer system.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

7.1. Precautions for safe handling

Wear personal protective equipment. Avoid contact with skin and eyes. Ensure adequate ventilation. Do not breathe vapors or spray mist. Take precautionary measures against static discharges. Use explosion-proof equipment. Use only non-sparking tools. Keep away from open flames, hot surfaces and sources of ignition. To avoid ignition of vapors by static electricity discharge, all metal parts of the equipment must be grounded.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

7.2. Conditions for safe storage, including any incompatibilities

ACR11798

Revision Date 19-Feb-2019

Ethyl acrylate, stabilized

Revision Date 19-Feb-2019

Refrigerator/flammables. Keep away from heat/sparks/open flames/hot surfaces. - No smoking. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

7.3. Specific end use(s)

Use in laboratories

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Exposure limits

List source(s): **EU** - Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC on the protection of the health and safety of workers from the risks related to chemical agents at work. **UK** - EH40/2005 Containing the workplace exposure limits (WELs) for use with the Control of Substances Hazardous to Health Regulations (COSHH) 2002 (as amended). Updated by September 2006 official press release and October 2007 Supplement. **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001. Published by the Health and Safety Authority.

Component	The United Kingdom	European Union	Ireland
Ethyl acrylate	STEL: 10 ppm 15 min	TWA: 5 ppm 8 hr	TWA: 5 ppm 8 hr.
	STEL: 42 mg/m ³ 15 min	TWA: 21 mg/m ³ 8 hr	TWA: 20 mg/m ³ 8 hr.
	TWA: 5 ppm 8 hr	STEL: 10 ppm 15 min	STEL: 10 ppm 15 min
	TWA: 21 mg/m ³ 8 hr	STEL: 42 mg/m ³ 15 min	STEL: 41 mg/m ³ 15 min
	_	-	Skin

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

Derived No Effect Level (DNEL) Workers

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral	0.00			
Dermal Inhalation	0.92 mg/cm2		21 mg/m ³	

Predicted No Effect Concentration See values below. (PNEC)

 Fresh water
 2.72 ug/L

 Fresh water sediment
 0.0213 mg/kg dw

 Marine water
 0.272 ug/L

 Water Intermittent
 11 ug/L

 Soil (Agriculture)
 1 mg/kg dw

8.2. Exposure controls

Engineering Measures

Ethyl acrylate, stabilized Revision Date 19-Feb-2019

Ensure adequate ventilation, especially in confined areas. Ensure that eyewash stations and safety showers are close to the workstation location. Use explosion-proof electrical/ventilating/lighting/equipment.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Natural rubber	See manufacturers	-	EN 374	(minimum requirement)
Nitrile rubber	recommendations			
Neoprene				
PVC				

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure

Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. (Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

Respiratory Protection When workers are facing concentrations above the exposure limit they must use

appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used

and maintained properly

Large scale/emergency use Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits

are exceeded or if irritation or other symptoms are experienced

Recommended Filter type: Organic gases and vapours filter Type A Brown conforming to

EN14387

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure

limits are exceeded or if irritation or other symptoms are experienced.

Recommended half mask:- Valve filtering: EN405; or; Half mask: EN140; plus filter, EN

@ 760 mmHg

141

When RPE is used a face piece Fit Test should be conducted

Environmental exposure controls Prevent product from entering drains. Do not allow material to contaminate ground water

system.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

AppearanceColorlessPhysical StateLiquid

Odor Stench

Odor Threshold

PH

No information available

No information available

No information available

Melting Point/Range-71 °C / -95.8 °FSoftening PointNo data availableBoiling Point/Range99 °C / 210.2 °F

Flash Point 16 °C / 60.8 °F Method - No information available

Evaporation Rate No data available

Flammability (solid,gas) Not applicable Liquid

Ethyl acrylate, stabilized Revision Date 19-Feb-2019

Explosion Limits Lower 1.8

Upper 13

Vapor Pressure 29.5 mmHg @ 20 °C

Vapor Density 3.45 (Air = 1.0) (Air = 1.0)

Specific Gravity / Density 0.920

Bulk Density Not applicable Liquid

Water Solubility 1.5% (25°C)

Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Componentlog PowEthyl acrylate1.18

Autoignition Temperature399 °C / 750.2 °FDecomposition TemperatureNo data availableViscosity0.58 °C at 20 °C

Explosive PropertiesNo information available
Vapors may form explosive mixtures with air

Oxidizing Properties No information available

9.2. Other information

Molecular FormulaC5 H8 O2Molecular Weight100.12

SECTION 10: STABILITY AND REACTIVITY

10.1. Reactivity Yes

10.2. Chemical stability

Light sensitive.

10.3. Possibility of hazardous reactions

Hazardous PolymerizationPolymerization can occur.Hazardous ReactionsNo information available.

10.4. Conditions to avoid

Keep away from open flames, hot surfaces and sources of ignition. Excess heat. Exposure

to light. Incompatible products.

10.5. Incompatible materials

Acids. Bases. Peroxides.

10.6. Hazardous decomposition products

Carbon monoxide (CO). Carbon dioxide (CO₂).

SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Product Information

(a) acute toxicity;

Oral Category 4
Dermal Category 4
Inhalation Category 3

Ethyl acrylate, stabilized

Component LD50 Oral LD50 Dermal LC50 Inhalation Ethyl acrylate 1120 mg/kg (Rat) 3049-5000 mg/kg (Rat) <9.14 mg/L/4h (Rat) (vapour) 25.8 mg/L/1h (Rat) (vapour)

(b) skin corrosion/irritation; Category 2

Category 2 (c) serious eye damage/irritation;

(d) respiratory or skin sensitization;

Respiratory Skin

Based on available data, the classification criteria are not met

Category 1

No information available

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met

The table below indicates whether each agency has listed any ingredient as a carcinogen

Limited evidence of a carcinogenic effect

Component	EU	UK	Germany	IARC
Ethyl acrylate				Group 2B

Based on available data, the classification criteria are not met (g) reproductive toxicity;

Category 3 (h) STOT-single exposure;

Results / Target organs Respiratory system.

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

Based on available data, the classification criteria are not met (i) aspiration hazard;

delayed

Symptoms / effects,both acute and Inhalation of high vapor concentrations may cause symptoms like headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching,

swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest

pain, muscle pain or flushing

SECTION 12: ECOLOGICAL INFORMATION

12.1. Toxicity

Ecotoxicity effects The product contains following substances which are hazardous for the environment.

Contains a substance which is:. Toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Ethyl acrylate	LC50: 10.0 - 22.0 mg/L,	EC50: = 7.9 mg/L, 48h	EC50: = 48 mg/L, 72h	EC50 = 1536 mg/L 17 h
	96h static (Leuciscus	(Daphnia magna)	(Desmodesmus	EC50 = 46.8 mg/L 24 h
	idus)		subspicatus)	
	LC50: 2.31 - 2.7 mg/L,			
	96h flow-through			
	(Pimephales promelas)			
	LC50: = 4.6 mg/L, 96h			
	(Oncorhynchus mykiss)			

Revision Date 19-Feb-2019

Ethyl acrylate, stabilized Revision Date 19-Feb-2019

12.2. Persistence and degradability Readily biodegradable

Persistence Persistence is unlikely.

Degradation in sewage treatment plant

Contains substances known to be hazardous to the environment or not degradable in waste

water treatment plants.

12.3. Bioaccumulative potential Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Ethyl acrylate	1.18	No data available

12.4. Mobility in soilThe product is water soluble, and may spread in water systems. Will likely be mobile in the

environment due to its water solubility. Highly mobile in soils

12.5. Results of PBT and vPvB

assessment

No data available for assessment.

12.6. Other adverse effects

Endocrine Disruptor Information Persistent Organic Pollutant Ozone Depletion Potential This product does not contain any known or suspected endocrine disruptors

This product does not contain any known or suspected substance This product does not contain any known or suspected substance

SECTION 13: DISPOSAL CONSIDERATIONS

13.1. Waste treatment methods

Waste from Residues / Unused

Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

European Waste Catalogue (EWC)

According to the European Waste Catalogue, Waste Codes are not product specific, but

application specific.

Other Information

Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

SECTION 14: TRANSPORT INFORMATION

IMDG/IMO

14.1. UN number UN1917

14.2. UN proper shipping name ETHYL ACRYLATE, STABILIZED

14.3. Transport hazard class(es) 3 14.4. Packing group II

<u>ADR</u>

14.1. UN number UN1917

14.2. UN proper shipping name ETHYL ACRYLATE, STABILIZED

14.3. Transport hazard class(es) 3 14.4. Packing group II

IATA

Ethyl acrylate, stabilized Revision Date 19-Feb-2019

14.1. UN number UN1917

14.2. UN proper shipping name ETHYL ACRYLATE, STABILIZED

14.3. Transport hazard class(es) II 14.4. Packing group

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Not applicable, packaged goods Annex II of MARPOL73/78 and the

IBC Code

SECTION 15: REGULATORY INFORMATION

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed.

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Ethyl acrylate	205-438-8	-		Х	Χ	-	Χ	Χ	Χ	Χ	KE-2950
											7

National Regulations

	Component	Germany - Water Classification (VwVwS)	Germany - TA-Luft Class
ſ	Ethyl acrylate	WGK 2	Class I: 20 mg/m3 (Massenkonzentration)
	, ,	WGK 1	, , , , , , , , , , , , , , , , , , ,

Component	France - INRS (Tables of occupational diseases)
Ethyl acrylate	Tableaux des maladies professionnelles (TMP) - RG 65

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3

H225 - Highly flammable liquid and vapor

H302 - Harmful if swallowed

H312 - Harmful in contact with skin

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H331 - Toxic if inhaled

H335 - May cause respiratory irritation

H412 - Harmful to aquatic life with long lasting effects

Legend

CAS - Chemical Abstracts Service TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory of Existing Commercial Chemical

Substances List

Ethyl acrylate, stabilized

Revision Date 19-Feb-2019

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic

ICAO/IATA - International Civil Aviation Organization/International Air

MARPOL - International Convention for the Prevention of Pollution from

ENCS - Japanese Existing and New Chemical Substances

AICS - Australian Inventory of Chemical Substances

IARC - International Agency for Research on Cancer

NZIoC - New Zealand Inventory of Chemicals

PNEC - Predicted No Effect Concentration

POW - Partition coefficient Octanol:Water

vPvB - very Persistent, very Bioaccumulative

EC50 - Effective Concentration 50%

TWA - Time Weighted Average

LD50 - Lethal Dose 50%

Transport Association

ATE - Acute Toxicity Estimate VOC - Volatile Organic Compounds

Substances/EU List of Notified Chemical Substances

PICCS - Philippines Inventory of Chemicals and Chemical Substances

IECSC - Chinese Inventory of Existing Chemical Substances

KECL - Korean Existing and Evaluated Chemical Substances

WEL - Workplace Exposure Limit

ACGIH - American Conference of Governmental Industrial Hygienists

DNEL - Derived No Effect Level

RPE - Respiratory Protective Equipment LC50 - Lethal Concentration 50% NOEC - No Observed Effect Concentration PBT - Persistent, Bioaccumulative, Toxic

ADR - European Agreement Concerning the International Carriage of

Dangerous Goods by Road

IMO/IMDG - International Maritime Organization/International Maritime

Dangerous Goods Code

OECD - Organisation for Economic Co-operation and Development

BCF - Bioconcentration factor

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hvaiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

26-Oct-2010 **Creation Date Revision Date** 19-Feb-2019 **Revision Summary** Not applicable.

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text

End of Safety Data Sheet