

Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013

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

Perihalan Produk:

Product Description:

Cat No. :

Synonyms

Molecular Formula

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

257750000; 257750250; 257751000; 257755000

Peracetic acid

C2 H4 O3

**Relevant identified uses of the substance or mixture and uses advised against**

Recommended Use

Laboratory chemicals.

Uses advised against

No Information available

**Company**

Fisher Scientific (M) Sdn Bhd No. 3, Jalan Sepadu 25/123,

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**SECTION 2: HAZARDS IDENTIFICATION**
**Classification of the substance or mixture**

	Organic peroxides
Type D (H242)	
Acute oral toxicity	Category 4 (H302)
Acute dermal toxicity	Category 4 (H312)
Acute Inhalation Toxicity - Vapors	Category 4 (H332)
Skin Corrosion/Irritation	Category 1 (H314) A
Serious Eye Damage/Eye Irritation	Category 1 (H318)
Specific target organ toxicity - (single exposure)	Category 3 (H335)
Acute aquatic toxicity	Category 1 (H400)

**Label Elements**


# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

## Signal Word

## Danger

### Hazard Statements

H242 - Heating may cause a fire

H302 + H312 + H332 - Harmful if swallowed, in contact with skin or if inhaled

H314 - Causes severe skin burns and eye damage

H335 - May cause respiratory irritation

H400 - Very toxic to aquatic life

### Precautionary Statements

#### Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

P220 - Keep away from clothing and other combustible materials

P234 - Keep only in original packaging

P241 - Use explosion-proof electrical/ ventilating/ lighting equipment

P264 - Wash face, hands and any exposed skin thoroughly after handling

P270 - Do not eat, drink or smoke when using this product

P271 - Use only outdoors or in a well-ventilated area

P280 - Wear protective gloves/protective clothing/eye protection/face protection

#### Response

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower

P304 + P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

P310 - Immediately call a POISON CENTER or doctor

P330 - Rinse mouth

P331 - Do NOT induce vomiting

P363 - Wash contaminated clothing before reuse

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish

#### Storage

P403 + P233 - Store in a well-ventilated place. Keep container tightly closed

P410 - Protect from sunlight

P411 + P235 - Store at temperatures not exceeding 50 °C/ 122 °F. Keep cool

P420 - Store away from other materials

#### Disposal

P501 - Dispose of contents/ container to an approved waste disposal plant

### Other Hazards

Combustible liquid

This product does not contain any known or suspected endocrine disruptors

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

Component	CAS No	Weight %
Acetic acid	64-19-7	46-55
Peroxyacetic acid	79-21-0	34-39
Hydrogen peroxide	7722-84-1	11-15

## SECTION 4: FIRST AID MEASURES

### Description of first aid measures

#### General Advice

Show this safety data sheet to the doctor in attendance. Immediate medical attention is

# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

required.

## Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

## Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing and gloves, including the inside, before re-use. Call a physician immediately.

## Ingestion

Do NOT induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.

## Inhalation

If not breathing, give artificial respiration. Remove from exposure, lie down. 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. Call a physician immediately.

## 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.

## Most important symptoms and effects, both acute and delayed

Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

## Indication of any immediate medical attention and special treatment needed

### Notes to Physician

Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### Extinguishing media

#### Suitable Extinguishing Media

Water mist may be used to cool closed containers. CO<sub>2</sub>, dry chemical, dry sand, alcohol-resistant foam.

#### Extinguishing media which must not be used for safety reasons

No information available.

### Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

### Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Sulfur oxides.

### Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

## SECTION 6: ACCIDENTAL RELEASE MEASURES

### Personal Precautions, Protective Equipment and Emergency Procedures

Ensure adequate ventilation. Use personal protective equipment as required. Evacuate personnel to safe areas. Keep people away

# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

from and upwind of spill/leak.

## Environmental precautions

Should not be released into the environment.

## Methods and Material for Containment and Cleaning Up

Keep in suitable, closed containers for disposal. Soak up with inert absorbent material.

## Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

## SECTION 7: HANDLING AND STORAGE

### Precautions for Safe Handling

Wear personal protective equipment/face protection. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe mist/vapors/spray. Do not ingest. If swallowed then seek immediate medical assistance.

### Conditions for Safe Storage, Including any Incompatibilities

Keep refrigerated. Corrosives area. Organic peroxides. Keep away from heat, sparks and flame. Do not store near combustible materials. Keep container tightly closed.

### Specific End Uses

Use in laboratories.

## SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

### Control Parameters

Component	Malaysia	ACGIH TLV	OSHA PEL
Acetic acid		TWA: 10 ppm STEL: 15 ppm	(Vacated) TWA: 10 ppm (Vacated) TWA: 25 mg/m <sup>3</sup> TWA: 10 ppm TWA: 25 mg/m <sup>3</sup>
Peroxyacetic acid		STEL: 0.4 ppm	
Hydrogen peroxide		TWA: 1 ppm	(Vacated) TWA: 1 ppm (Vacated) TWA: 1.4 mg/m <sup>3</sup> TWA: 1 ppm TWA: 1.4 mg/m <sup>3</sup>

Component	European Union	The United Kingdom	Germany
Acetic acid	TWA: 25 mg/m <sup>3</sup> (8h) TWA: 10 ppm (8h) STEL: 50 mg/m <sup>3</sup> (15min) STEL: 20 ppm (15min)	STEL: 37 mg/m <sup>3</sup> STEL: 15 ppm TWA: 10 ppm TWA: 25 mg/m <sup>3</sup>	TWA: 10 ppm (8 Stunden). AGW - exposure factor 2 TWA: 25 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 2 TWA: 10 ppm (8 Stunden). MAK TWA: 25 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 20 ppm Höhepunkt: 50 mg/m <sup>3</sup>
Peroxyacetic acid			TWA: 0.1 ppm (8 Stunden). MAK TWA: 0.32 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 0.1 ppm Höhepunkt: 0.32 mg/m <sup>3</sup>
Hydrogen peroxide		STEL: 2 ppm 15 min STEL: 2.8 mg/m <sup>3</sup> 15 min TWA: 1 ppm 8 hr TWA: 1.4 mg/m <sup>3</sup> 8 hr	TWA: 0.5 ppm (8 Stunden). AGW - TWA: 0.71 mg/m <sup>3</sup> (8 Stunden). AGW - exposure factor 1 TWA: 0.5 ppm (8 Stunden). MAK

# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

			TWA: 0.71 mg/m <sup>3</sup> (8 Stunden). MAK Höhepunkt: 0.5 ppm Höhepunkt: 0.71 mg/m <sup>3</sup>
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## Exposure Controls

### Engineering Measures

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

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

#### **Hand Protection**

Protective gloves

#### **Skin and body protection**

Long sleeved clothing

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

#### **Recommended Filter type:**

Particulates filter conforming to EN 143 Acid gases filter Type E Yellow conforming to EN14387

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

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

### Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

### Environmental exposure controls

Prevent product from entering drains Do not allow material to contaminate ground water system Local authorities should be advised if significant spillages cannot be contained

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

### Information on basic physical and chemical properties

<b>Appearance</b>	Clear Colorless
<b>Physical State</b>	Liquid
<b>Odor</b>	Strong pungent
<b>Odor Threshold</b>	No data available
<b>pH</b>	-1.2

<b>Melting Point/Range</b>	-44 °C / -47.2 °F
<b>Softening Point</b>	No data available
<b>Boiling Point/Range</b>	105 °C / 221 °F
<b>Flash Point</b>	62 °C / 143.6 °F

@ 760 mmHg

**Method -** No information available

<b>Evaporation Rate</b>	No data available
<b>Flammability (solid,gas)</b>	Not applicable

Liquid

# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

**Explosion Limits** No data available

<b>Vapor Pressure</b>	20 hPa @ 20 °C	
<b>Vapor Density</b>	No data available	(Air = 1.0)
<b>Specific Gravity / Density</b>	1.130	
<b>Bulk Density</b>	Not applicable	Liquid
<b>Water Solubility</b>	Soluble	
<b>Solubility in other solvents</b>	No information available	

## Partition Coefficient (n-octanol/water)

Component	log Pow
Acetic acid	-0.2
Peroxyacetic acid	-0.46
Hydrogen peroxide	-1.1

**Autoignition Temperature** No data available

**Decomposition Temperature** No data available

**Viscosity** No data available

**Explosive Properties** explosive air/vapour mixtures possible

**Oxidizing Properties** Oxidizer

**Molecular Formula** C2 H4 O3

**Molecular Weight** 76.05

## SECTION 10: STABILITY AND REACTIVITY

### Reactivity

Yes.

### Chemical Stability

Stable under normal conditions. Oxidizer: Contact with combustible/organic material may cause fire.

### Possibility of Hazardous Reactions

<b>Hazardous Polymerization</b>	No information available.
<b>Hazardous Reactions</b>	None under normal processing.

### Conditions to Avoid

Heat, flames and sparks. Keep away from open flames, hot surfaces and sources of ignition. Incompatible products. Combustible material. Excess heat.

### Incompatible Materials

Strong oxidizing agents. Finely powdered metals. Organic materials. Metals. Reducing Agent. Strong reducing agents. Combustible material.

### Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Sulfur oxides.

# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

## SECTION 11: TOXICOLOGICAL INFORMATION

### Information on Toxicological Effects

#### Product Information

##### (a) acute toxicity;

Oral	No data available
Dermal	No data available
Inhalation	No data available

### Toxicology data for the components

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Acetic acid	3310 mg/kg ( Rat )	-	> 40 mg/L ( Rat ) 4 h
Peroxyacetic acid	1540 µL/kg ( Rat )	1410 µL/kg ( Rabbit )	LC50 = 213 mg/m <sup>3</sup> ( Rat ) 4 h LC50 = 186 mg/m <sup>3</sup> ( Rat ) 4 h
Hydrogen peroxide	376 mg/kg ( Rat ) (90%) 910 mg/kg ( Rat ) (20-60%) 1518 mg/kg ( Rat ) (8-20% sol)	>2000 mg/kg ( Rabbit )	LC50 = 2000 mg/m <sup>3</sup> ( Rat ) 4 h

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

##### (d) respiratory or skin sensitization;

Respiratory	No data available
Skin	No data available

(e) germ cell mutagenicity; No data available

(f) carcinogenicity; No data available

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

(g) reproductive toxicity; No data available

(h) STOT-single exposure; No data available

Results / Target organs	Respiratory system.
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(i) STOT-repeated exposure; No data available

Target Organs	None known.
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(j) aspiration hazard; No data available

Other Adverse Effects The toxicological properties have not been fully investigated.

Symptoms / effects, both acute and delayed Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated. Ingestion causes

# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

severe swelling, severe damage to the delicate tissue and danger of perforation. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

## Endocrine Disrupting Properties

Assess endocrine disrupting properties for human health. This product does not contain any known or suspected endocrine disruptors.

## SECTION 12: ECOLOGICAL INFORMATION

### Ecotoxicity effects

The product contains following substances which are hazardous for the environment. Very toxic to aquatic organisms.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Acetic acid	Pimephales promelas: LC50 = 88 mg/L/96h Lepomis macrochirus: LC50 = 75 mg/L/96h	EC50 = 95 mg/L/24h	-	Photobacterium phosphoreum: EC50 = 8.8 mg/L/15 min Photobacterium phosphoreum: EC50 = 8.8 mg/L/25 min Photobacterium phosphoreum: EC50 = 8.8 mg/L/5 min
Peroxyacetic acid	LC50: = 1.1 mg/L, 96h semi-static (Lepomis macrochirus)			
Hydrogen peroxide	LC50: 16.4 mg/L/96h (P.promelas)	EC50 7.7 mg/L/24h	EC50 2.5 mg/L/72h	

### Persistence and degradability

#### Persistence

#### Degradation in sewage treatment plant

Readily biodegradable

Soluble in water, Persistence is unlikely, based on information available.

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Acetic acid	-0.2	No data available
Peroxyacetic acid	-0.46	No data available
Hydrogen peroxide	-1.1	No data available

### Mobility in soil

The 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.

### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

### Other adverse effects

No information available

## SECTION 13: DISPOSAL CONSIDERATIONS

### 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



# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

empty container away from heat and sources of ignition

## Other Information

Do not flush to sewer Waste codes should be assigned by the user based on the application for which the product was used Can be landfilled or incinerated, when in compliance with local regulations Do not empty into drains Large amounts will affect pH and harm aquatic organisms Do not let this chemical enter the environment

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

UN-No UN3105  
Hazard Class 5.2  
Subsidiary Hazard Class 8  
Proper Shipping Name ORGANIC PEROXIDE TYPE D, LIQUID (PEROXYACETIC ACID, TYPE D, STABILIZED)

### Road and Rail Transport

UN-No UN3105  
Hazard Class 5.2  
Subsidiary Hazard Class 8  
Proper Shipping Name ORGANIC PEROXIDE TYPE D, LIQUID (PEROXYACETIC ACID, TYPE D, stabilized)

### IATA

UN-No FORBIDDEN FOR IATA TRANSPORT  
UN3105  
Hazard Class 5.2  
Subsidiary Hazard Class 8  
Proper Shipping Name ORGANIC PEROXIDE TYPE D, LIQUID (PEROXYACETIC ACID, TYPE D, STABILIZED)  
FORBIDDEN FOR IATA TRANSPORT

Special Precautions for User No special precautions required

## SECTION 15: REGULATORY INFORMATION

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

International Inventories X = listed

Component	EINECS	TSCA	DSL	PICCS	ENCS	ISHL	IECSC	AICS	KECL
Acetic acid	200-580-7	X	X	X	X	X	X	X	X
Peroxyacetic acid	201-186-8	X	X	X	X	X	X	X	2005-3-3198
Hydrogen peroxide	231-765-0	X	X	X	X	X	X	X	KE-20204

Component	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
Acetic acid				Annex I - Y34

### National Regulations

Persistent Organic Pollutant  
Ozone Depletion Potential

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

# SAFETY DATA SHEET

Peroxyacetic acid, ca. 35 wt.% solution in diluted acetic acid, stabilized

Revision Date 28-Mar-2024

## SECTION 16: OTHER INFORMATION

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical 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

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**POW** - Partition coefficient Octanol:Water

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**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

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - (Volatile Organic Compound)

### **Key literature references and sources for data**

<https://echa.europa.eu/information-on-chemicals>

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

**Revision Date**

28-Mar-2024

**Revision Summary**

SDS sections updated.

**In accordance with local and national regulations: Occupational Safety and Health (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulations 2013**

### **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**