

OXYKIL®

1. PRODUCT AND COMPANY IDENTIFICATION

Product identifiers

Product name : OXYKIL®
 Other names : Peracetic acid, Peroxyethanoic acid, PAA
 Molecular formula : CH₃-COOOH
 Type of product : Mixture

Identified uses / Uses advised against

Identified uses : Cleaning agent
 Disinfectants and general biocidal products
 Oxidising Agents

Manufacturer or supplier's details

Company : SOLVAY PEROXYTHAI LIMITED
 Address : 16TH FL. WAVE PLACE, 55 WIRELESS RD
 T. 10330 BANGKOK
 Telephone : +6626106470
 Fax : +66662/3673272
 E-mail address : sdstracking@solvay.com

Emergency telephone number : 001800 1 2066 6751 (internal) / +65 3158 1074 [Carechem24]

2. HAZARDS IDENTIFICATION

GHS-Classification

This mixture is classified as dangerous according to Thai legislation.

Physical Hazard

Hazard class	Hazard category	Route of exposure	H Phrases
Oxidizing liquids	Category 2		H272

Health hazard

Hazard class	Hazard category	Route of exposure	H Phrases
Skin corrosion	Category 1B		H314
Serious eye damage	Category 1		H318
Acute toxicity	Category 4	Oral	H302
Acute toxicity	Category 4	Inhalation	H332
Acute toxicity	Category 4	Dermal	H312
Target Organ Systemic Toxicant - Single exposure	Category 3	Inhalation	H335

GHS Label elements, including precautionary statements

Name(s) on label

Hazardous components : Peracetic acid (5 %)
 Hydrogen peroxide (20 %)
 Acetic acid (10 %)

Signal word:

Danger

Hazard symbols:





Hazard statements:

May intensify fire; oxidiser.
 Harmful if swallowed.
 Harmful in contact with skin.
 Causes severe skin burns and eye damage.
 Harmful if inhaled.
 May cause respiratory irritation.

Precautionary statements

Prevention Keep/Store away from clothing/ .? /combustible materials.
 Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.

Response Wear protective gloves/ protective clothing/ eye protection/ face protection.
 IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing.
 Rinse skin with water/ shower.
 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 Immediately call a POISON CENTER or doctor/ physician.

Other hazards which do not result in classification

- May cause fire.
- Causes burns.
- Harmful by inhalation, in contact with skin and if swallowed.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name:	Concentration
Peracetic acid CAS-No.: 79-21-0	ca. 5 %
Hydrogen peroxide CAS-No.: 7722-84-1	ca. 20 %
Acetic acid CAS-No.: 64-19-7	ca. 10 %
Ethoxylate alcohol CAS-No.: 68603-25-8	ca. 1 %



Hazardous components

Substance name	Hazard class	Hazard category	Route of exposure	H Phrases
Peracetic acid	Flammable liquids	Category 3		H226
	Organic peroxides	Type D		H242
	Acute toxicity	Category 4	Inhalation	H332
	Acute toxicity	Category 4	Dermal	H312
	Acute toxicity	Category 4	Oral	H302
	Skin corrosion	Category 1A		H314
	Acute aquatic hazard	Category 1		H400
Hydrogen peroxide	Oxidizing liquids	Category 1		H271
	Acute toxicity	Category 4	Inhalation	H332
	Acute toxicity	Category 4	Oral	H302
	Skin corrosion	Category 1A		H314
	Specific target organ toxicity - single exposure	Category 3	Inhalation	H335
	Acute aquatic toxicity	Category 2		H401
	Chronic aquatic toxicity	Category 3		H412
Acetic acid	Flammable liquids	Category 3		H226
	Skin corrosion	Category 1A		H314

4. FIRST AID MEASURES**Description of necessary first-aid measures**If inhaled

- Move to fresh air.
- Oxygen or artificial respiration if needed.
- Victim to lie down in the recovery position, cover and keep him warm.
- Call a physician immediately.

In case of eye contact

- Call a physician or poison control centre immediately.
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).
- Take victim immediately to hospital.

In case of skin contact

- Take off contaminated clothing and shoes immediately.
- Wash off immediately with plenty of water.
- Keep warm and in a quiet place.
- Call a physician or poison control centre immediately.
- Wash contaminated clothing before re-use.

If swallowed

- Call a physician or poison control centre immediately.
- Take victim immediately to hospital.
- If swallowed, rinse mouth with water (only if the person is conscious).
- Do NOT induce vomiting.
- Artificial respiration and/or oxygen may be necessary.

Most important symptoms/effects, acute and delayedInhalation

- Severe respiratory irritant
- Symptoms: Breathing difficulties, Cough, chemical pneumonitis, pulmonary oedema
- Repeated or prolonged exposure: Nose bleeding, chronic bronchitis

Skin contact

- Corrosive



- Symptoms: Redness, Swelling of tissue, Burn

Eye contact

- Corrosive
- May cause irreversible eye damage.
- Symptoms: Redness, Lachrymation, Swelling of tissue, Burn

Ingestion

- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the oesophagus and the stomach.
- Symptoms: Nausea, Abdominal pain, Bloody vomiting, Diarrhoea, Suffocation, Cough, Severe shortness of breath
- Risk of: Respiratory disorder

Indication of immediate medical attention and special treatment needed, if necessary

- Take victim immediately to hospital.
- Immediate medical attention is required.
- Burns must be treated by a physician.
- Risk of shock.
- Medical supervision for minimum 48 hours.

5. FIREFIGHTING MEASURES

Extinguishing media

Suitable extinguishing media

- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
- Water
- Water spray

Unsuitable extinguishing media

- None.

Specific hazards arising from the chemical

- May cause fire or explosion; strong oxidiser.
- Oxygen released in thermal decomposition may support combustion

Special protective actions for fire-fighters

- In the event of fire, wear self-contained breathing apparatus.
- Use personal protective equipment.
- Wear chemical resistant oversuit
- Cool containers / tanks with water spray.
- Prevent fire extinguishing water from contaminating surface water or the ground water system.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Advice for non-emergency personnel

- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.

Advice for emergency responders

- Use personal protective equipment.
- Drying of this product on clothing or combustible materials may cause fire.
- Keep wetted with water.
- Prevent further leakage or spillage.
- Keep away from Incompatible products.

Environmental precautions

- Discharge into the environment must be avoided.
- Do not flush into surface water or sanitary sewer system.
- In case of accidental release or spill, immediately notify the appropriate authorities if required by Federal, State/Provincial and local laws and regulations.



Methods and materials for containment and cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Prevent product from entering drains.
- Keep in suitable, closed containers for disposal.

Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

7. HANDLING AND STORAGE**Precautions for safe handling**

- Use only in well-ventilated areas.
- Before all operations, passivate the piping circuits and vessels according to the procedure recommended by the producer.
- Use only clean and dry utensils.
- Never return unused material to storage receptacle.
- May not get in touch with:
 - Organic materials
- Keep away from Incompatible products.
- Keep away from heat.

Conditions for safe storage, including any incompatibilitiesStorage

- Keep in properly labelled containers.
- Keep tightly closed in a dry, cool and well-ventilated place.
- Keep in a bunded area.
- Electrical equipment should be protected to the appropriate standard.
- Keep away from Incompatible products.

Packaging material**Suitable material**

- Stainless steel cleaned and passivated
- Approved grades of HDPE.

Specific use(s)

- For further information, please contact: Supplier

8. EXPOSURE CONTROLS/PERSONAL PROTECTION**Control parameters**Exposure Limit Values**Peracetic acid**

- SAEL (Solvay Acceptable Exposure Limit) 2008
TWA = 0,2 ppm

Hydrogen peroxide

- US. ACGIH Threshold Limit Values 03 2012
time weighted average = 1 ppm

Acetic acid

- US. ACGIH Threshold Limit Values 03 2012
time weighted average = 10 ppm
- US. ACGIH Threshold Limit Values 03 2012
Short term exposure limit = 15 ppm
- Thailand. OELs. Notification of the Ministry of Interior, Re: Working Safety in Respect to Environmental Condition (Chemical) 03 2001
time weighted average = 10 ppm
time weighted average = 25 mg/m³
- Thailand. OELs. Notification of the Ministry of Interior, Re: Working Safety in Respect to Environmental Condition (Chemical) 03 2001
Remarks: Listed



Ethoxylate alcohol

- US. ACGIH Threshold Limit Values

Remarks: none established

Exposure controlsAppropriate engineering controls

- Provide adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.

Individual protection measures

Respiratory protection

- In case of insufficient ventilation, wear suitable respiratory equipment.
- When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

Hand protection

- Impervious gloves
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).
- Suitable material: butyl-rubber

Eye protection

- Chemical resistant goggles must be worn.
- If splashes are likely to occur, wear: Tightly fitting safety goggles, Face-shield

Skin and body protection

- Chemical resistant apron
- If splashes are likely to occur, wear: Apron/boots of butyl rubber if risk of splashing.

Hygiene measures

- Ensure that eyewash stations and safety showers are close to the workstation location.
- Take off contaminated clothing and shoes immediately.
- Wash contaminated clothing before re-use.
- When using do not eat, drink or smoke.
- Wash hands before breaks and at the end of workday.
- Handle in accordance with good industrial hygiene and safety practice.

Environmental exposure controls

- Dispose of rinse water in accordance with local and national regulations.

9. PHYSICAL AND CHEMICAL PROPERTIES**Physical and chemical properties**General Information

- **Appearance** liquid
- **Colour** colourless
- **Odour** pungent

Important health safety and environmental information

- **pH** < 2
- **pKa** pKa1= 8,2 at 25 °C
- **Melting point/freezing point** ca. -42 °C
(calculated value)
- **Boiling point/boiling range** ca. 105 °C, (calculated value)
- **Flash point** 74 - 83 °C
(closed cup)
- **Evaporation rate** No data
- **Flammability (solid, gas)** not applicable
- **Flammability** The product is not flammable., Heating may cause a fire.
- **Explosive properties** Not explosive
- **Vapour pressure** ca. 32 hPa, at 25 °C; Method: calculated value



- **Vapour density** no data available
- **Density** no data available
- **Relative density** 1,1
- **Bulk density** not applicable
- **Solubility(ies)** no data available
- **Solubility/qualitative** completely miscible (Water)
soluble (Organic solvents)
slightly soluble, Aromatic solvents
- **Partition coefficient: n-octanol/water** log Pow: -1,25, Method: calculated value

log Pow: -0,52, Method: measured value
- **Auto-ignition temperature** no data available
- **Decomposition temperature** ≥ 60 °C, Self-Accelerating decomposition temperature (SADT)
- **Viscosity** no data available
- **Oxidizing properties** Oxidizer

Other information

Remarks no data available

10. STABILITY AND REACTIVITY**Reactivity**

- Decomposes on heating.
- Heating may cause a fire.
- Potential for exothermic hazard

Chemical stability

- Stable under recommended storage conditions.

Possibility of hazardous reactions

- Contact with combustible material may cause fire.
- Contact with flammables may cause fire or explosions.
- Risk of explosion if heated under confinement.
- Fire or intense heat may cause violent rupture of packages.

Conditions to avoid

- Contamination
- To avoid thermal decomposition, do not overheat.

Materials to avoid

- Acids, Bases, Metals, Heavy metal salts, Powdered metal salts, Reducing agents, Organic materials, Flammable materials

Hazardous decomposition products

- Oxygen

11. TOXICOLOGICAL INFORMATION**Acute toxicity**Acute oral toxicity

- LD50, rat, > 300 mg/kg (5 % PAA mixture)



Acute inhalation toxicity

- LC50, 4 h, rat, 4.080 mg/m³, aerosol (5 % PAA mixture)

Acute dermal toxicity

- LD50, rabbit, 1.147 mg/kg (5 % PAA mixture)

Irritation (other route)

- Inhalation, rat, Irritating to respiratory system., 22 - 24 mg/m³, RD 50 (Peracetic acid)

Skin corrosion/irritation

- rabbit, Corrosive

Serious eye damage/eye irritation

- rabbit, Risk of serious damage to eyes.

Sensitisation

- guinea pig, Did not cause sensitization on laboratory animals.

Mutagenicity

- In vitro tests did not show mutagenic effects
- Animal testing did not show any mutagenic effects.

Carcinogenicity

- Animal testing did not show any carcinogenic effects.

Toxicity for reproduction

- No toxicity to reproduction
- rat, 30,4 mg/kg, NOAEL, foetotoxic effect
- rat, 12,5 mg/kg, NOAEL, female

Repeated dose toxicity

- Oral, 13 weeks, rat, 0,75 mg/kg, NOAEL

Other information

- no data available

12. ECOLOGICAL INFORMATION

Toxicity

- Fishes, *Lepomis macrochirus*, LC50, 96 h, 21 mg/l (5 % PAA mixture)
- Crustaceans, *Daphnia magna*, EC50, 48 h, 14 mg/l (5 % PAA mixture)
- *Pseudokirchneriella subcapitata* (green algae), EC50, 72 - 96 h, 3,5 mg/l (5 % PAA mixture)

Persistence and degradability

Abiotic degradation

- Air, t 1/2 ca. 2,6 d
Result: The product can be degraded by abiotic (e.g. chemical or photolytic) processes.
- Water, t 1/2 (Hydrolysis) ca. 120 h
Result: Chemical degradation
- Soil, < 99 %, 0,5 h
Result: Chemical degradation (1 % solution)

Biodegradation

- aerobic, Tested according to: Closed Bottle test, ca. 56 % after 28 d
Result: Not biodegradable
- aerobic, Tested according to: ready biodegradability/MITI, from 2 mg/l, > 70 % after 28 d
Result: Readily biodegradable.
- Effects on waste water treatment plants, 90 mg/l
Result: inhibitory action
- Effects on waste water treatment plants
BOD increase of treated effluent by acetic acid formation



Bioaccumulative potential

- log Pow -1,25, calculated value, Result: Does not bioaccumulate.

Mobility in soil

- Water Solubility(ies), Mobility
- Soil/sediments, log KOC:0,63 non-significant adsorption
- Air, Volatility, Henry's law constant (H), 0,22 hPa.m³/mol not significant

Other adverse effects

- no data available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

- Contact manufacturer.
- Contact waste disposal services.
- In accordance with local and national regulations.

Contaminated packaging

- Empty containers.
- Clean container with water.
- Dispose of rinse water in accordance with local and national regulations.
- Where possible recycling is preferred to disposal or incineration.
- In accordance with local and national regulations.

14. TRANSPORT INFORMATION

International transport regulations

· **IATA-DGR**

UN number	UN 3149
Class	5.1
Packing group	II
Labels	5.1 - Oxidizing substances 8 - Corrosive
Proper shipping name	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE,STABILIZED

· **IMDG**

UN number	UN 3149
Class	5.1
Packing group	II
Labels	5.1 - Oxidizing substances 8 - Corrosive
HI/UN No.	3149
EmS	F-H S-Q
Proper shipping name	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE,STABILIZED



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· ADR

UN number	UN 3149
Class	5.1
Packing group	II
Labels	5.1 - Oxidizing substances 8 - Corrosive
HI/UN No.	58 / 3149
Proper shipping name	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE,STABILIZED

· RID

UN number	UN 3149
Class	5.1
Packing group	II
Labels	5.1 - Oxidizing substances 8 - Corrosive
HI/UN No.	58 / 3149
Proper shipping name	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE,STABILIZED

· ADN

UN number	UN 3149
Class	5.1
Packing group	II
Labels	5.1 - Oxidizing substances 8 - Corrosive
Proper shipping name	HYDROGEN PEROXIDE AND PEROXYACETIC ACID MIXTURE,STABILIZED

15. REGULATORY INFORMATION

Applicable Laws or Regulations

- Expert judgement
- Dangerous Chemicals (Notification of Ministry of Interior Re: Working Safety relating to Harmful Chemical B.E. 2534, August 1991)
- => Peracetic Acid (ID: 1259)
- => Hydrogen Peroxide (ID: 991)
- => Acetic Acid (ID: 184)
- List of Hazardous Substances, Appendix A (Notification of Ministry of Industry Re: List of Hazardous Substances B.E. 2538 (1995), as amended through Notification No. 7, B.E. 2553 (2010))
- => Peracetic Acid (Classification: 3 & Thailand department: FS)
- => Hydrogen Peroxide (Classification: 1 & Thailand department: IW)
- => Acetic Acid (Classification: 3 & Thailand department: FS partially exempt under Industrial Works Dept)
- List of Hazardous Substances, Appendix B (Notification of Ministry of Industry Re: List of Hazardous Substances B.E. 2538 (1995), as amended through Notification No. 7, B.E. 2553 (2010))
- => Hydrogen Peroxide (Classification: 3 / Thailand Department: IW / Substance type: HW)
- Hazardous Substances Prohibited from On-line Notification System - Notification of Ministry of Industry, B.E. 2547
- => Hydrogen Peroxide
- Notification of the Ministry of Interior: Working Safety in Respect to Environmental Condition (Chemical)
- => Acetic Acid

Notification status

Inventory Information	Status
Toxic Substance Control Act list (TSCA)	In compliance with inventory
Australian Inventory of Chemical Substances (AICS)	In compliance with inventory
Canadian Domestic Substances List (DSL)	In compliance with inventory
Korean Existing Chemicals Inventory (KECI (KR))	In compliance with inventory



EU list of existing chemical substances (EINECS)	In compliance with inventory
Japanese Existing and New Chemical Substances (MITI List) (ENCS)	In compliance with inventory
Inventory of Existing Chemical Substances (China) (IECS)	In compliance with inventory
Philippine Inventory of Chemicals and Chemical Substances (PICCS)	In compliance with inventory
New Zealand Inventory of Chemicals (NZIOC)	In compliance with inventory

16. OTHER INFORMATION

Full text of H-Statements referred to under section 3

H226	· Flammable liquid and vapour.
H242	· Heating may cause a fire.
H271	· May cause fire or explosion; strong oxidiser.
H302	· Harmful if swallowed.
H312	· Harmful in contact with skin.
H314	· Causes severe skin burns and eye damage.
H332	· Harmful if inhaled.
H335	· May cause respiratory irritation.
H400	· Very toxic to aquatic life.
H401	· Toxic to aquatic life.
H412	· Harmful to aquatic life with long lasting effects.

Other information

- Update
This data sheet contains changes from the previous version in section(s): 3, 4, 15, 16
- Distribute new edition to clients

The information given corresponds to the current state of our knowledge and experience of the product, and is not exhaustive. This applies to product which conforms to the specification, unless otherwise stated. In this case of combinations and mixtures one must make sure that no new dangers can arise. In any case, the user is not exempt from observing all legal, administrative and regulatory procedures relating to the product, personal hygiene, and protection of human welfare and the environment.

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