
! SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier****Name of product** INTERSTERIL**1.2. Relevant identified uses of the substance or mixture and uses advised against****Recommended intended purpose(s)**

disinfectant

1.3. Details of the supplier of the safety data sheet**Manufacturer/distributor**Hysolv Ltd.
53 Lethbridge Road, GB- BA5 2FW Wells, Somerset
Phone 0778 357 1778 or 0786 780 7330
E-Mail info@hysolv.com
Internet www.hysolv.com**1.4. Emergency telephone number****Emergency advice**for healthcare professionals: www.toxbase.org
Members of the public should contact their general practitioner or telephone NHS 111(England), NHS 24 (Scotland) or NHS Direct (Wales).

! SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****! Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]**

Hazard classes and Hazard categories	Hazard Statements	Classification procedure
Org. Perox. EF	H242	
Met. Corr. 1	H290	
Acute Tox. 4	H302	
Acute Tox. 4	H312	
Acute Tox. 4	H332	
Skin Corr. 1A	H314	
Eye Dam. 1		
STOT SE 3	H335	
Aquatic Chronic 1	H410	

Hazard Statements

H242	Heating may cause a fire.
H290	May be corrosive to metals.
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.
H410	Very toxic to aquatic life with long lasting effects.

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008 [CLP/GHS]

GHS02



GHS05



GHS07



GHS09

! Signal word

Danger

Hazard Statements

- H242 Heating may cause a fire.
H290 May be corrosive to metals.
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.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary Statements

- P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P103 Read carefully and follow all instructions.
P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.
No smoking.
P273 Avoid release to the environment.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352 IF ON SKIN: Wash with plenty of water / soap.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P305 + P351 + P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308 + P311 IF exposed or concerned: call poison center / doctor / ambulance.
P405 Store locked up.
P501 Dispose of contents to a special waste burning following official rules.

Supplemental Hazard information (EU)

Corrosive to the respiratory tract.

2.3. Other hazards**Information pertaining to special dangers for human and environment**

Danger of combustion in case of contact with incompatible substances, contaminations, metals, alkalis, reducing agents.

Danger of combustion when effected by warmth / heat.

Results of PBT and vPvB assessment

A PBT / vPvB assessment is not available because a chemical safety assessment is not necessary / has not been done.

! SECTION 3: Composition/ information on ingredients**3.1. Substances**

not applicable

3.2. Mixtures**Description**

Preparation of peracetic-acid, hydrogen peroxide, acetic acid and water in equilibrium.

! Hazardous ingredients

CAS No	EC No	Name	[% weight]	Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]
64-19-7	200-580-7	acetic acid	<= 18	Flam. Liq. 3, H226 / Skin Corr. 1A, H314
7722-84-1	231-765-0	hydrogen peroxide in solution	<= 25	Ox. Liq. 1, H271 / Acute Tox. 4, H332 / Acute Tox. 4, H302 / Skin Corr. 1A, H314
79-21-0	201-186-8	peracetic-acid	<= 17	Flam. Liq. 3, H226 / Org. Perox. D, H242 / Acute Tox. 3, H331 / Acute Tox. 4, H312 / Acute Tox. 3, H301 / Skin Corr. 1A, H314 / Eye Dam. 1, H318 / STOT SE 3, H335 / Aquatic Acute 1, H400 / Aquatic Chronic 1, H410

REACH

CAS No	Name	REACH registration number
64-19-7	acetic acid	01-2119475328-30-0023
7722-84-1	hydrogen peroxide in solution	01-2119485845-22-0000
79-21-0	peracetic-acid	01-2119531330-56-0004

! SECTION 4: First aid measures**4.1. Description of first aid measures****! General information**

Remove contaminated soaked clothing immediately.
In case of unconsciousness: recovery position.
Do not leave casualty unattended.
Adhere to personal protective measures when giving first aid.
Keep casualty warm, calm and covered.
Take away from danger area and lay down affected person.

In case of inhalation

Remove the casualty into fresh air and keep him immobile.
In case of difficulty in breathing: supply oxygen, seek medical advice.
When aerosols or fogs form, inhalation is possible.
If breathing stops: donate breath, call for medical advice immediately.

! In case of skin contact

Take off soiled clothes immediately.
Wash the exposed skin with plenty of water for at least 15 minutes.
Refer for medical treatment.

! In case of eye contact

Rinse the eye with plenty of water while protecting the unhurt eye (for at least 10 min.).
Medical treatment by eye specialist.
Call for emergency doctor (eye burning)!

Further treatment by eye clinic / ophthalmologist. Continue eye rinsing until arriving at the eye clinic / ophthalmologist.

In case of ingestion

Do not induce vomiting.

Call for emergency doctor immediately (acid erosion)!

Rinse out mouth and give plenty of water to drink.

4.2. Most important symptoms and effects, both acute and delayed**Physician's information / possible symptoms**

Health injuries may be delayed.

Irritation of skin and mucous membranes.

Headache

Nausea

somnolence (sleepiness)

Causes burns.

Confusion

Dizziness

Physician's information / possible dangers

Vapours may cause drowsiness and dizziness.

Strongly irritating to corrosive.

Harmful in contact with skin and if swallowed.

4.3. Indication of any immediate medical attention and special treatment needed**Treatment (Advice to doctor)**

The initial focus is only on the local action, characterized by quickly progressing deep tissue damage.

The initial focus is on the local action: signs of irritation of the respiratory tract such as coughing, burning behind the sternum, tears, burning in the eyes or nose.

A specific action of the substance is unknown.

In case of substances with a high water solubility, irritations up to formation of necrosis in the upper respiratory tract may result after inhalation of caustic / irritating aerosols and mists.

Danger! Possible loss of eyesight!

There is a risk of pulmonary edema!

Superficial irritations and damage up to ulcerations and scarring develop on the skin.

In the eye, caustic / irritating and harmful liquids cause, depending on the intensity of exposure, various levels of irritation, destruction, and ablation of the epithelium of the conjunctiva and cornea, corneal clouding, edema and ulcerations.

After accidental absorption in the body, the pathology and clinical findings are dependent on the kinetics of the substance (quantity of absorbed substance, the absorption time, and the effectiveness of early elimination measures (first aid, excretion met

SECTION 5: Firefighting measures**5.1. Extinguishing media****Suitable extinguishing media**

Foam

Dry powder

Carbon dioxide (CO₂)

Water spray jet

Unsuitable extinguishing media

organic compounds

5.2. Special hazards arising from the substance or mixture

Release of oxygen may have oxidizing effect.

In case of fire cool or flood endangered containers with water.

Contact with the following substances may lead to ignition: ignitable substances.

In case of fire danger of decomposition with release of oxygen.

Risk of overpressure and bursting when decomposing in closed containers and pipe systems.

In case of fire separate endangered containers and store at a safe place if possible. Protect from heat.

5.3. Advice for firefighters**Special protective equipment for fire-fighters**

Use breathing apparatus with independent air supply (isolated).

Wear chemical protective clothes.

Additional information

Keep unprotected persons away.

Keep unauthorized persons away.

Extinguishing water may not get into drainage system, subsoil or waters.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

Keep persons safe.

Provide sufficient reservoir for extinguishing water.

SECTION 6: Accidental release measures**6.1. Personal precautions, protective equipment and emergency procedures****For non-emergency personnel**

Remove persons to safety.

Product causes burns.

Keep unauthorized persons away.

Use personal protective equipment.

Keep unprotected persons away.

6.2. Environmental precautions

Care for water protection (collect, dam up, cover).

Do not discharge into the drains/surface waters/groundwater.

Do not discharge into the subsoil/soil.

6.3. Methods and material for containment and cleaning up

Keep away from ignitable substances.

Dispose of in suitable containers.

Keep away from incompatible substances.

Clean contaminated surfaces thoroughly.

Recommended detergent: water.

Flush small quantities away with plenty of water.

Take up with absorbent material (e.g. Chemisorb, Kieselgur, universal binding agent).

Do not take up with saw dust, textiles or other combustible materials.

After taking up the material dispose according to regulation.

Take up mechanically.

Additional Information

Put damaged packages into salvage barrels made of plastic (not metal).

Spilled product may not be put back into the original container for reuse (risk of decomposition).

Secure or remove all sources of ignition.

Separate damaged packages if possible without danger.

Avoid release of the product by stopping up if possible without danger.

Do not seal damaged packages and salvage barrels from air (danger of bursting by decomposition).
Do not put product back in container.

6.4. Reference to other sections

Personal protection equipment: see section 8

! SECTION 7: Handling and storage

7.1. Precautions for safe handling

! Advice on safe handling

Change moist and soaked clothes immediately.
Do not breathe vapors, aerosoles or mist.
Avoid contact with skin and eyes.
Provide emergency shower and eye shower.
Use only in thoroughly ventilated areas.
Avoid contamination and heat.
Keep container closed well after taking out product.
Do not empty container by pressure.
Spilled product may not be put back into the original container for reuse (risk of decomposition).
Set up safety and operation procedures.
Use personal protective equipment.
Take the usual precautions when handling with chemicals.

! General protective measures

It refers to the working site and has to be defined by risk analysis according to 89/686/EWG and its amendments.
Wear suitable protective clothing, gloves and glasses / face protection.
Working site values have to be kept below the limit.
Do not breathe steam, aerosols and spray mist.
Work in well ventilated areas.
The usual safety and precaution measures for handling chemicals have to be considered.
The personal protective equipment has to conform with the guideline 89/686/EWG and it's amendments (CE labelling).
When working site values are exceeded or in case of release of larger quantities (leakage, spilling, dust) respiratory protection has to be used.

Hygiene measures

All contaminated protective equipments have to be cleaned after use.
Avoid contact with skin, eyes and clothes.
At work do not eat, drink, smoke or take drugs.
Remove soiled or soaked clothing immediately.
Wash soiled clothing immediately.
Avoid residues of the product on the containers.
Wash hands before breaks and after work.
Use barrier skin cream.

7.2. Conditions for safe storage, including any incompatibilities

Requirements for storage rooms and vessels

Examine the functionality of the ventilation system regularly.
Suitable material: polytetrafluoroethylene (PTFE), glass, ceramic, stainless steel (1.4571), polyethylene, polypropylene, PVC.
Do not close container gas tight.
Ventilate store-rooms thoroughly.
Provide suitable air relief on all containers and tanks and check function regularly.
Provide acid-resistant floor.

Keep only in original container.
Use only compatible materials for transport, storage, handling and tanks.
Do not enclose product in containers or pipes without air relief. Danger of overpressure and bursting in case of decomposition in closed containers and pipes.
Care for leaktightness. Avoid leakage.
Only use containers that are especially allowed for: peracetic acid.
Unsuitable material: iron, copper, brass, bronze, aluminium, tin, zinc.
Store cool and dry.
Secure availability of water for cases of emergency (cooling, flooding, extinguishing) and examine the functionality regularly.

Advice on storage compatibility

Do not store together with: alkalis, reducing agents, metallic salts (risk of decomposition).
Keep away from incompatible substances.
Do not store together with ignitable substances (risk of fire).

! Further information on storage conditions

Zu beachten: TRGS 510 "Lagerung von Gefahrstoffen in ortsbeweglichen Behältern"
Keep away from sources of ignition.
Transport and store in upright position.
Risk group OP IV (organic peroxides) according to hazardous materials regulations.
Protect from heat.
Avoid product rests at / on containers.
Avoid decontamination.
Protect of heat.
Control the containers regularly by sight for corrosion, expansion, rise of temperature.
Protect from sun.

Storage group 5.2

7.3. Specific end use(s)**Recommendation(s) for intended use**

We are unaware of any specific end uses which go beyond the data reported in section 1.

! SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Indicative occupational exposure limit values (91/322/EEC, 2000/39/EC, 2004/37/EC, 2006/15/EC or 2009/161/EU)**

CAS No	Name	Code	[mg/m ³]	[ppm]	Remark
64-19-7	acetic acid	8 hours	25	10	

Additional advice

MAK-value: (2009) hydrogen peroxide: 0,5 ml/m³, 0,71 mg/m³, I(1), 4, C

8.2. Exposure controls**Respiratory protection**

Wear independent breathing protection.
Wear breathing protection with combined filter A2B2E2K1P2 (Draeger).
Consider time limit for wearing breathing protection.
Breathing protection is required when the tolerance limits are exceeded and/or in case of release of larger amounts (leakage, spilling).
Do not breathe vapors, aerosoles or mist.
Breathing protection with combined filter ABEK2P3 (3M).
Breathing protection is required when handling the product open.

Breathing protection with combined filter OV/AG (3M).
If needed ventilation.

Hand protection

During short term handling or when handling small amounts: Nitril, e. g. Dermatril 740, Kächele-Cama Latex GmbH (KCL) Germany, 0,11 mm

During long term handling or when handling large amounts: Polychloropren (CR), e. g. Camapren 720, Kächele-Cama Latex GmbH (KCL), Germany, 0,65 mm, penetration duration > 480 min, DIN EN 374

Eye protection

safety goggles with side protection

When handling larger amounts: protective shield.

Safety goggles

Other protection measures

Acid resistant protective clothing (e.g. made of PVC, neoprene, nitrile-butadiene rubber, rubber)
rubber boots
plastic boots

! SECTION 9: Physical and chemical properties
9.1. Information on basic physical and chemical properties
Appearance

liquid

Colour

colourless

Odour

pungent

Odour threshold

not determined

Important health, safety and environmental information

	Value	Temperature	at	Method	Remark
pH value	ca. -0,6	20 °C			
Boiling temperature / boiling range	not determined				
melting point	ca. -50 °C				
Flash point	79 °C			ISO 2719	
Vapourisation rate	not determined				
Flammable (solid)	not determined				
Flammability (gas)	not determined				
Ignition temperature	260 °C			DIN 51794	
Self ignition temperature					The product is not self-igniting.
Lower explosion limit	not determined				
Upper explosion limit	not determined				

	Value	Temperature	at	Method	Remark
Vapour pressure	ca. 25 hPa	20 °C			
Relative density	not determined				
Vapour density	not determined				
Solubility in water	not determined				
Solubility/other	not determined				
Partition coefficient n-octanol/water (log P O/W)	-0,52				measured as peracetic acid
Decomposition temperature	>= 60 °C				self-accelerating decomposition
Viscosity	not determined				

Oxidising properties

oxidizing, method: according to EC directive 67/548/EEC.

Explosive properties

No information available.

9.2. Other information

strong oxidizing agent

burn rate: does not ignite

! SECTION 10: Stability and reactivity**10.1. Reactivity**

Product is an oxidizing agent and reactive.

10.2. Chemical stability

Product is stabilized at delivery.

The product is stable under the conditions stated herein referring to surrounding, storage and handling.

10.3. Possibility of hazardous reactions

Product is an oxidizing agent and reactive.

When coming in contact with the product, impurities, decomposition catalysts, metallic salts, alkalis, reducing agents may lead to self-accelerated, exothermic decomposition and the formation of oxygen. Risk of self-accelerating, exothermic decomposition with the development of oxygen at effect of thermal energy / heat.

10.4. Conditions to avoid

Danger of formation of overpressure and bursting due to decomposition in closed containers and pipes.

Release of oxygen may support fire.

Direct sunlight, warmth, heat,

Risk of decomposition under the influence of warmth or heat.

10.5. Incompatible materials
Substances to avoid

organic solvents, possible dangerous reaction: explosion

Release of oxygen may support fire.

ignitable materials, possible dangerous reactions: self ignition.

Contaminations, decomposition catalysts, metal salts, alkalis, reduction agents, metals, aluminium, zinc,
possible dangerous reactions: decomposition.

10.6. Hazardous decomposition products

Decomposition products under conditions of thermal decomposition: steam, oxygen, acetic acid

! SECTION 11: Toxicological information
11.1. Information on toxicological effects
Acute toxicity/Irritation/Sensitization

	Value/Validation	Species	Method	Remark
LD50 acute oral	500 mg/kg		Estimation, expert judgement	
LD50 acute dermal	1100 mg/kg		Estimation, expert judgement	
LC50 acute inhalation	ca. 11 mg/l ()		Estimation, expert judgement	steam
Skin irritation	extremely corrosive and destructive to tissue			
Eye irritation	irreversible effects on the eye			

Subacute Toxicity - Carcinogenicity

	Value	Species	Method	Validation
Chronic Toxicity	NOEL 1,17 mg/kg (92 - 93 d) oral, rat test substance: peracetic acid 100%	rat	OECD TG 408	
Reproduction-Toxicity	NOAEL parents 12,5 mg/kg Prenatal development toxicity study oral rat. test substance: peracetic acid 100%	rat	OECD TG 414	

Carcinogenicity

No data available. Not
mutagenic.

Specific target organ toxicity (single exposure)

The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.

! SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicological effects

	Value	Species	Method	Validation
Fish	LC50 0,91 mg/l (96 h)	Oncorhynchus mykiss	literature	test substance: peracetic acid
Daphnia	EC50 0,69 mg/l (48 h)	Daphnia magna	US-EPA-Methode	test substance: peracetic acid
Algae	EC50 0,16 mg/l (72 h)	Selenastrum capricornutum	US-EPA	test substance: peracetic acid
Bacteria	EC50 5,1 mg/l (3 h)	activated sludge	OECD 209	test substance: peracetic acid

12.2. Persistence and degradability

	Elimination rate	Method of analysis	Method	Validation
Physico-chemical degradability			literature	Hydrolizes after 7 days to approx. 50%.
Biological degradability	At concentrations non toxic to bacteria.		OECD 301 E	readily degradable

12.3. Bioaccumulative potential

low

log Pow: see chapter 9

12.4. Mobility in soil

No information available.

12.5. Results of PBT and vPvB assessment

A PBT / vPvB assessment is not available because a chemical safety assessment is not necessary / has not been done.

12.6. Other adverse effects

Toxic to aquatic life.

Very toxic to aquatic life with long lasting effects.

Additional ecological information

	Value	Method	Remark
AOX	The product does not contain organically bounded halogen.		

General regulation

Does not contain heavy metals and compounds according to EG-guideline no. 76/464.

Fast hydrolysis, reduction or decomposition under environmental conditions. Following substances are formed: oxygen, water, acetic acid. Acetic acid is easily bio degradable.

! SECTION 13: Disposal considerations
13.1. Waste treatment methods
Recommendations for the product

Rests and no longer usable dilutions should be taken to an official disposal company.

To be disposed of according to official rules.

After neutralization the product can be disposed of as sewage according to national rules.

Contact authorities if necessary.

! Recommendations for packaging

Incompletely emptied and/or cleaned packages have to be disposed of like the substance.

Totally emptied packaging may be taken for recycling.

Rinse empty containers before disposal, recommended detergent: water. Give clean packages to local recycling facilities.

General information

The waste code according to the European waste catalogue (2000/532/EG) can be specified in agreement with disposal facility / producer / authority.

A waste code according to the European waste catalogue cannot be specified for this product as the specification is based on the intended use.

! SECTION 14: Transport information

	ADR/RID	IMDG	IATA-DGR
14.1. UN number	3109	3109	-
14.2. UN proper shipping name	ORGANIC PEROXIDE TYPE F, LIQUID (organisches Peroxid Typ F, flüssig (enthält Peroxyessigsäure, Typ F, stabilisiert))	ORGANIC PEROXIDE TYPE F, LIQUID (organic peroxide Type F, liquid (contains peroxyacetic acid, Type F, stabilized))	-
14.3. Transport hazard class(es)	5.2	5.2	-
14.4. Packing group	-	-	-
14.5. Environmental hazards	Yes	Yes	-

14.6. Special precautions for user

No information available.

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

No information available.

Land and inland navigation transport ADR/RID

Hazard label(s) 5.2

Tunnel restriction code D

Classification code P1

hazardous good classification: 5.2/8

hazardous label: 5.2 + 8 + "environmental hazards"

Marine transport IMDG

MARINE POLLUTANT

hazardous good classification: 5.2/8

Transport/further information

Keep separated from alkalis, metal powders and combustible substances.

Keep separated from acids and alkalis.

Protect from sources of heat.

EmS: F-J, S-R

SECTION 15: Regulatory information**15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture****Other regulations (EU)**

Annex XVII of EU directive 1907/2006 (REACH) and its amendments.

National regulations**Restriction of occupation**

EU guideline 92/85/EWG (legal protection of working mothers) and its amendments.

EU guideline 94/33/EWG (guideline for the protection of working minors) and its amendments.

Other regulations, restrictions and prohibition regulations

BG leaflet M001 "Organic peroxides"

BGI 595 Irritating substances / corrosive substances

BG-leaflet BGI 564 Handling hazardous substances

Water hazard class

2 Classification according to VwVwS, Annex 4

**Decree for case of
interference/remarks**

listing: Appendix III, part 2 and/or appendix IV. The product is subject to the EC directive 2012/18/EC and amendments (see regulations concerning malfunctions).

15.2. Chemical Safety Assessment

No information available.

SECTION 16: Other information**Further information**

The information contained herein is based on the state of our knowledge. It characterizes the product with regard to the appropriate safety precautions. It does not represent a guarantee of the properties of the product.

Indication of changes: "!" = Data changed compared with the previous version. Previous version: 1.6

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H271	May cause fire or explosion; strong oxidiser.
H301	Toxic if swallowed.
H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H400	Very toxic to aquatic life.

H410 Very toxic to aquatic life with long lasting effects.