SAFETY DATA SHEET

(REACH regulation (EC) n° 1907/2006 - n° 2015/830)

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

1.1. Product identifier

Product name : CATALYSEUR 2S

Product code : 04011.

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

Resin Catalyst

1.3. Details of the supplier of the safety data sheet

Registered company name : PRESI S.A.

Address : 11 Rue du vercors.38320.EYBENS.France.

Telephone : +33 (0)4.76.72.00.21. Fax : +33 (0)4.76.72.05.84.

presi@presi.com

www.presi.com

1.4. Emergency telephone number : +33 (0)1.45.42.59.59.

Association/Organisation : INRS / ORFILA http://www.centres-antipoison.net.

SECTION 2 : HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

In compliance with EC regulation No. 1272/2008 and its amendments.

Flammable liquid, Category 3 (Flam. Liq. 3, H226).

Organic peroxide, Type D (Org. Perox. D, H242).

Acute oral toxicity, Category 4 (Acute Tox. 4, H302).

Acute inhalation toxicity, Category 4 (Acute Tox. 4, H332).

Skin corrosion, Category 1B (Skin Corr. 1B, H314).

Serious eye damage, Category 1 (Eye Dam. 1, H318).

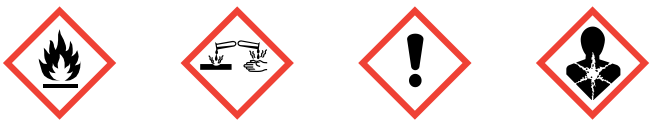
Reproductive toxicity, Category 2 (Repr. 2, H361).

Hazardous to the aquatic environment - Chronic hazard, Category 3 (Aquatic Chronic 3, H412).

2.2. Label elements

In compliance with EC regulation No. 1272/2008 and its amendments.

Hazard pictograms :



GHS02 GHS05 GHS07 GHS08

Signal Word :

DANGER

Product identifiers :

EC 229-934-9	DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL
EC 215-661-2	PEROXYDE DE METHYLETHYLCETONE
EC 231-765-0	HYDROGEN PEROXIDE SOLUTION

Hazard statements :

H226	Flammable liquid and vapour.
H242	Heating may cause a fire.
H302 + H332	Harmful if swallowed or if inhaled.
H314	Causes severe skin burns and eye damage.

H361d	Suspected of damaging the unborn child.
H412	Harmful to aquatic life with long lasting effects.
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.
P233	Keep container tightly closed.
P235	Keep cool.
P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P262	Do not get in eyes, on skin, or on clothing.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
Precautionary statements - Response :	
P301 + P312	IF SWALLOWED: Call a POISON CENTER/doctor/... if you feel unwell.
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.
P308 + P313	IF exposed or concerned: Get medical advice/attention.
P315	Get immediate medical advice/attention.
Precautionary statements - Storage :	
P403 + P235	Store in a well-ventilated place. Keep cool.

2.3. Other hazards

The mixture does not contain substances classified as 'Substances of Very High Concern' (SVHC) >= 0.1% published by the European CHemicals Agency (ECHA) under article 57 of REACH: http://echa.europa.eu/fr/candidate-list-table

The mixture fulfils neither the PBT nor the vPvB criteria for mixtures in accordance with annexe XIII of the REACH regulations EC 1907/2006.

SECTION 3 : COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Composition :

Identification	(EC) 1272/2008	Note	%
CAS: 6846-50-0 EC: 229-934-9 REACH: 01-2119451093-47 DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL	GHS08 Wng Repr. 2, H361d Aquatic Chronic 3, H412	[2]	25 <= x % < 50
CAS: 1338-23-4 EC: 215-661-2 REACH: 01-2119514691-43 PEROXYDE DE METHYLETHYLCETONE	GHS07, GHS05, GHS02 Dgr Self-react. D, H242 Org. Perox. D, H242 Acute Tox. 4, H302 Skin Corr. 1B, H314 Eye Dam. 1, H318 Acute Tox. 4, H332	[1]	25 <= x % < 50
CAS: 123-42-2 EC: 204-626-7 REACH: 01-2119473975-21 4-HYDROXY-4-METHYLPENTAN-2-ONE	GHS07 Wng Eye Irrit. 2, H319 STOT SE 3, H335	[1]	10 <= x % < 25

CAS: 78-93-3 EC: 201-159-0 REACH: 01-2119457290-43 BUTANONE	GHS07, GHS02 Dgr Flam. Liq. 2, H225 Eye Irrit. 2, H319 STOT SE 3, H336	[1]	2.5 <= x % < 10
CAS: 7722-84-1 EC: 231-765-0 REACH: 01-2119485845-22 HYDROGEN PEROXIDE SOLUTION	GHS07, GHS05, GHS03 Dgr Ox. Liq. 1, H271 Acute Tox. 4, H302 Skin Corr. 1A, H314 Eye Dam. 1, H318 Acute Tox. 4, H332 STOT SE 3, H335 Aquatic Chronic 3, H412	B [1]	1 <= x % < 2.5

(Full text of H-phrases: see section 16)

Information on ingredients :

[1] Substance for which maximum workplace exposure limits are available.

[2] Carcinogenic, mutagenic or reprotoxic (CMR) substance.

SECTION 4 : FIRST AID MEASURES

As a general rule, in case of doubt or if symptoms persist, always call a doctor.

NEVER induce swallowing by an unconscious person.

4.1. Description of first aid measures

In the event of exposure by inhalation :

In the event of massive inhalation, remove the person exposed to fresh air. Keep warm and at rest.

If breathing is irregular or has stopped, effect mouth-to-mouth resuscitation and call a doctor.

Do not proceed with mouth-to-mouth or mouth-to-nose resuscitation.Use the appropriate equipment.

If symptoms persist, call a physician

In the event of splashes or contact with eyes :

Wash thoroughly with fresh, clean water for 15 minutes holding the eyelids open.

Regardless of the initial state, refer the patient to an ophthalmologist and show him the label.

In the event of splashes or contact with skin :

Remove any soiled or splashed clothing immediately.

Watch out for any remaining product between skin and clothing, watches, shoes, etc.

If the contaminated area is widespread and/or there is damage to the skin, a doctor must be consulted or the patient transferred to hospital.

Wash well with water

In the event of swallowing :

Do not give the patient anything orally.

In the event of swallowing, if the quantity is small (no more than one mouthful), rinse the mouth with water, administer activated medical charcoal and consult a doctor.

Seek medical attention immediately, showing the label.

If swallowed accidentally, call a doctor to ascertain whether observation and hospital care will be necessary. Show the label.

Do not induce vomiting without medical advice

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

Causes severe eye irritation.

Harmful by inhalation. May cause respiratory irritation.

Suspected of damaging the unborn child

Causes severe skin burns.

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

Treat symptomatically. contact a physician.

SECTION 5 : FIREFIGHTING MEASURES

Flammable.

Chemical powders, carbon dioxide and other extinguishing gas are suitable for small fires.

5.1. Extinguishing media

Keep packages near the fire cool, to prevent pressurised containers from bursting.

In the event of a fire nearby a peroxide storage area, evacuate the warehouse and move the peroxide containers to a safe place.

If this is not possible, the warehouse needs to be sprayed to prevent stock from heating and fire from spreading.

Suitable methods of extinction

In the event of a fire, use :

- sprayed water or water mist
- foam
- carbon dioxide (CO2)
- powder

In the event of a fire, use water except when fighting a fire caused by sodium peroxide where anhydrous sodium carbonate or dry sand should be used.

Carbon dioxide or dry powder extinguishers can be used if the fire is in its initial phase.

Prevent the effluent of fire-fighting measures from entering drains or waterways.

Unsuitable methods of extinction

In the event of a fire, do not use :

- water jet

5.2. Special hazards arising from the substance or mixture

A fire will often produce a thick black smoke. Exposure to decomposition products may be hazardous to health.

Do not breathe in smoke.

In the event of a fire, the following may be formed :

- carbon monoxide (CO)
- carbon dioxide (CO2)

Incomplete combustion produces toxic gases, such as CO, CO2, various forms of hydrocarbons, aldehydes, etc..., and soots

Contact with incompatible materials or exposure to superior temperature than selfaccelerating decomposition temperature might produce an selfaccelarating decomposition reaction with flammable vapors which might ignite spontaneously

Product ignites hard

Vapors might from explosive mixtures with air

5.3. Advice for firefighters

Fire-fighting personnel are to be equipped with autonomous insulating breathing apparatus.

In the event of fire, all personnel handling the fire must wear protective clothing and independent breathing apparatus.

SECTION 6 : ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

Consult the safety measures listed under headings 7 and 8.

For non first aid worker

Avoid inhaling the vapors.

Avoid any contact with the skin and eyes.

If a large quantity has been spilt, evacuate all personnel and only allow intervention by trained operators equipped with safety apparatus.

For first aid worker

First aid workers will be equipped with suitable personal protective equipment (See section 8).

6.2. Environmental precautions

Contain and control the leaks or spills with non-combustible absorbent materials such as sand, earth, vermiculite, diatomaceous earth in drums for waste disposal.

Prevent any material from entering drains or waterways.

If the product contaminates waterways, rivers or drains, alert the relevant authorities in accordance with statutory procedures

Use drums to dispose of collected waste in compliance with current regulations (see section 13).

6.3. Methods and material for containment and cleaning up

If the ground is contaminated, once the product has been recovered by sponging with an inert and non-combustible absorbent material, wash the contaminated area in plenty of water.

Clean preferably with a detergent, do not use solvents.

Use an inert, non-combustible substance that will absorb the peroxide : vermiculite, perlite, etc.

Do not use combustible cloths or materials.

The residue will be stored in non-combustible containers that are not hermetically sealed.

Clean the contaminated area with water.

6.4. Reference to other sections

No data available.

SECTION 7 : HANDLING AND STORAGE

Requirements relating to storage premises apply to all facilities where the mixture is handled.

Avoid exposure to pregnant women and warn women of child-bearing age of the possible risks

7.1. Precautions for safe handling

Always wash hands after handling.

Remove and wash contaminated clothing before re-using.

Remove contaminated clothing and protective equipment before entering eating areas.

Emergency showers and eye wash stations will be required in facilities where the mixture is handled constantly.

Safe handling advice Avoid contact with skin and eyes

Fire prevention :

Handle in well-ventilated areas.

Prevent the formation of flammable or explosive concentrations in air and avoid vapor concentrations higher than the occupational exposure limits.

Prevent the accumulation of electrostatic charges with connections to earth.

The mixture can become electrostatically charged : always earth during decanting operations. Wear antistatic shoes and clothing and floors should be electrically conductive.

Use the mixture in premises free of naked flames or other sources of ignition and ensure that electrical equipment is suitably protected.

Keep packages tightly closed and away from sources of heat, sparks and naked flames.

Do not use tools which may produce sparks. Do not smoke.

Prevent access by unauthorised personnel.

Recommended equipment and procedures :

For personal protection, see section 8.

Observe precautions stated on label and also industrial safety regulations.

Avoid inhaling vapors. Carry out any industrial operation which may give rise to this in a sealed apparatus.

Provide vapor extraction at the emission source and also general ventilation of the premises.

Also provide breathing apparatus for certain short tasks of an exceptional nature and for emergency interventions.

In all cases, recover emissions at source.

Avoid exposure - obtain special instructions before use.

Handle at a temperature 10°C below the self-accelerating decomposition temperature (SADT).

Do not perform transfer operations under pressure; this could cause the peroxide to heat.

Do not use an external heat source to bring the product to room temperature, to prevent the formation of a hot spot.

The equipment used for handling the product must be made of compatible material, instruments used must therefore be made of stainless steel, non-pigmented polyethylene or polypropylene.

Prohibited equipment and procedures :

No smoking, eating or drinking in areas where the mixture is used.

Never open the packages under pressure.

7.2. Conditions for safe storage, including any incompatibilities

Stock between 15°C and 25°C

Keep well away from combustible materials and reducing agents (amines), acids, bases, heavy metal compounds (accelerators, drying agents, metal, salts)

Storage

Keep the container tightly closed in a dry, well-ventilated place.

Keep away from food and drink, including those for animals.

Keep away from all sources of ignition - do not smoke.

Keep well away from all sources of ignition, heat and direct sunlight.

Avoid accumulation of electrostatic charges.

Store away from light and heat, since these factors favour peroxidation.

Store in inert atmosphere (e.g. under nitrogen).

Store in clean, unoxidised containers.

Ensure that the container is fully sealed to avoid evaporation of the solvent or product stored, which would cause a concentration of peroxides in the recipient.

The storage area must be indicated by signs bearing the 'Oxidising' symbol and have signs prohibiting smoking.

Packaging

Always keep in packaging made of an identical material to the original.

Only store in original packaging.

If decanting, ensure that the material on the new packaging is compatible with the properties of peroxide.

Make sure there is a ventilation hole in packaging containers, to prevent overpressure. A temperature indicator is also useful.

Suitable packaging materials :

- Aluminium
- Polyethylene

Unsuitable packaging materials :

- Galvanised metals
- Steel
- Copper
- Lead
- Zinc

7.3. Specific end use(s)

No data available.

SECTION 8 : EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters

Occupational exposure limits :

- European Union (2017/2398, 2017/164, 2009/161, 2006/15/CE, 2000/39/CE, 98/24/CE) :

CAS	VME-mg/m3 :	VME-ppm :	VLE-mg/m3 :	VLE-ppm :	Notes :
78-93-3	600	200	900	300	-

- ACGIH TLV (American Conference of Governmental Industrial Hygienists, Threshold Limit Values, 2010) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
1338-23-4			0,2 ppm		
123-42-2	50 ppm				
78-93-3	200 ppm	300 ppm		BEI	
7722-84-1	1 ppm			A3	

- Germany - AGW (BAuA - TRGS 900, 29/01/2018) :

CAS	VME :	VME :	Excess	Notes
123-42-2		20 ppm 96 mg/m³		2(I)

78-93-3		200 ppm 600 mg/m³		1(I)

- Canada / Ontario (Control of exposure to biological or chemical agents, regulation 491/2009) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
1338-23-4	-	-	0.2 ppm	-	-
123-42-2	50 ppm 240 mg/m3	75 ppm 360 mg/m3			

- Canada / Quebec (Regulations on occupational health and safety) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
1338-23-4			0,2 ppm 1,5 mgm/3	RP	
123-42-2	50 ppm 238 mg/m3				
78-93-3	50 ppm 150 mg/m3	100 ppm 300 mg/m3			
7722-84-1	1 ppm 1,4 mg/m3				

- France (INRS - ED984 :2016) :

CAS	VME-ppm :	VME-mg/m3 :	VLE-ppm :	VLE-mg/m3 :	Notes :	TMP No :
1338-23-4	-	-	0.2	1.5	-	-
123-42-2	50	240	-	-	-	84
78-93-3	200	600	300	900	*	84
7722-84-1	1	1.5	-	-	-	-

- Japan (JSOH, 11/05/2017) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
78-93-3	200 ppm 590 mg/m³				

- Switzerland (SUVAPRO 2017) :

CAS	VME	VLE	Valeur plafond	Notations
1338-23-4	0,2 ppm 1,5 mg/m³			
123-42-2	20 ppm 96 mg/m³	40 ppm 192 mg/m³		R
78-93-3	200 ppm 590 mg/m³	200 ppm 590 mg/m³		R B SSC
7722-84-1	0,5 ppm 0,71 mg/m³	0,5 ppm 0,71 mg/m³		SSC

- USA / NIOSH IDLH (National Institute for Occupational Safety and Health, Immediately Dangerous to Life or Health Concentrations) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
1338-23-4			0,2 ppm 1,5 mgm/3		
123-42-2	50 ppm 240 mg/m3				
78-93-3	200 ppm 590 mg/m3	300 ppm 885 mg/m3			
7722-84-1	1 ppm 1,4 mg/m3				

- UK / WEL (Workplace exposure limits, EH40/2005, 2011) :

CAS	TWA :	STEL :	Ceiling :	Definition :	Criteria :
1338-23-4	- ppm - mg/m³	0,2 ppm 1,5 mg/m³			
123-42-2	50 ppm 241 mg/m³	75 ppm 362 mg/m³			

78-93-3	200 ppm 600 mg/m³	300 ppm 899 mg/m³		Sk, BMGV	
7722-84-1	1 ppm 1,4 mg/m³	2 ppm 2,8 mg/m³			

Derived no effect level (DNEL) or derived minimum effect level (DMEL):

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)

Final use:	**Workers.**
Exposure method:	Dermal contact.
Potential health effects:	Long term systemic effects.
DNEL :	1.33 mg/kg body weight/day
Exposure method:	Inhalation.
Potential health effects:	Long term systemic effects.
DNEL :	2.35 mg of substance/m3

Predicted no effect concentration (PNEC):

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)

Environmental compartment:	Soil.
PNEC :	0.0142 mg/kg
Environmental compartment:	Fresh water.
PNEC :	0.0056 mg/l
Environmental compartment:	Sea water.
PNEC :	0.00056 mg/l
Environmental compartment:	Intermittent waste water.
PNEC :	0.056 mg/l
Environmental compartment:	Fresh water sediment.
PNEC :	0.0876 mg/kg
Environmental compartment:	Marine sediment.
PNEC :	0.00876 mg/kg
Environmental compartment:	Waste water treatment plant.
PNEC :	1.2 mg/l

8.2. Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing

Personal protection measures, such as personal protective equipment

Pictogram(s) indicating the obligation of wearing personal protective equipment (PPE) :

Use personal protective equipment that is clean and has been properly maintained.

Store personal protective equipment in a clean place, away from the work area.

Never eat, drink or smoke during use. Remove and wash contaminated clothing before re-using. Ensure that there is adequate ventilation, especially in confined areas.

- Eye / face protection

Avoid contact with eyes.

Use eye protectors designed to protect against liquid splashes

Before handling, wear safety goggles with protective sides accordance with standard EN166.

In the event of high danger, protect the face with a face shield.

Prescription glasses are not considered as protection.

Individuals wearing contact lenses should wear prescription glasses during work where they may be exposed to irritant vapours.

Provide eyewash stations in facilities where the product is handled constantly.

- Hand protection

Use suitable protective gloves that are resistant to chemical agents in accordance with standard EN374.

Gloves must be selected according to the application and duration of use at the workstation.

Protective gloves need to be selected according to their suitability for the workstation in question : other chemical products that may be handled, necessary physical protections (cutting, pricking, heat protection), level of dexterity required.

Type of gloves recommended :

- Butyl Rubber (Isobutylene-isoprene copolymer)

Recommended properties :

- Impervious gloves in accordance with standard EN374

- Body protection

Avoid skin contact.

Wear suitable protective clothing.

Suitable type of protective clothing :

In the event of substantial spatter, wear liquid-tight protective clothing against chemical risks (type 3) in accordance with EN14605 to prevent skin contact.

In the event of a risk of splashing, wear protective clothing against chemical risks (type 6) in accordance with EN13034 to prevent skin contact.

Wear suitable protective clothing and, in particular, an apron and boots. These items of clothing shall be maintained in good condition and cleaned after use.

Work clothing worn by personnel shall be laundered regularly.

After contact with the product, all parts of the body that have been soiled must be washed.

- Respiratory protection

Avoid breathing vapours.

If the ventilation is insufficient, wear appropriate breathing apparatus.

When workers are confronted with concentrations that are above occupational exposure limits, they must wear a suitable, approved, respiratory protection device.

Anti-gas and vapour filter(s) (Combined filters) in accordance with standard EN14387 :

- A1 (Brown)

SECTION 9 : PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

General information :

Physical state :	Fluid liquid.

Important health, safety and environmental information

pH :	Not relevant.
Boiling point/boiling range :	Not relevant.
Flash Point :	57.00 °C.
Vapour pressure (50°C) :	Not relevant.
Density :	1.01 g/cm3 (20°C)
Water solubility :	Soluble. env 6.5 g/l (20°C)
Fat solubility :	Phtalates
Partition coefficient: n-octanol/water :	0.3 (25°c)

Viscosity :	13 mPa.s (20°C)
Melting point/melting range :	< -25 °C
Self-ignition temperature :	Not relevant.
Decomposition point/decomposition range :	Not relevant.
Index of refraction :	1.431 (20°C)

9.2. Other information

Selfaccelerating decomposition temperature : 60 °C

SECTION 10 : STABILITY AND REACTIVITY

10.1. Reactivity

No data available.

10.2. Chemical stability

This mixture is stable under the recommended handling and storage conditions in section 7.

10.3. Possibility of hazardous reactions

No data available.

10.4. Conditions to avoid

Any apparatus likely to produce a flame or to have a metallic surface at high temperature (burners, electric arcs, furnaces etc.) must not be allowed on the premises.

Avoid :

- accumulation of electrostatic charges.
- heating
- heat
- flames and hot surfaces

May decompose under the effect of heat.

Do not heat the open flame, fumes or expose to flame or any source of ignition

10.5. Incompatible materials

Keep away from :

- combustible material
- strong acids
- strong bases
- reducing agents

Heavy metals salts

10.6. Hazardous decomposition products

The thermal decomposition may release/form :

- carbon monoxide (CO)
- carbon dioxide (CO2)

Irritating, caustic flammable gases and vapors

SECTION 11 : TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects

Harmful if swallowed.

Harmful by inhalation.

Suspected of damaging the unborn child.

11.1.1. Substances

Acute toxicity :

HYDROGEN PEROXIDE SOLUTION ...% (CAS: 7722-84-1)

Oral route :	LD50 = 1026 mg/kg
	Species : Rat

OECD Guideline 401 (Acute Oral Toxicity)

Dermal route : LD50 > 6500 mg/kg
Species : Rabbit

Inhalation route (n/a) : LC50 > 0.17 mg/l
Species : Rat

BUTANONE (CAS: 78-93-3)
Oral route : LD50 = 2193 mg/kg
Species : Rat
OECD Guideline 423 (Acute Oral toxicityAcute Toxic Class Method)

Dermal route : LD50 > 5000 mg/kg
Species : Rabbit
OECD Guideline 402 (Acute Dermal Toxicity)

4-HYDROXY-4-METHYLPENTAN-2-ONE (CAS: 123-42-2)
Oral route : LD50 = 3002 mg/kg
Species : Rat
OECD Guideline 401 (Acute Oral Toxicity)

Dermal route : LD50 > 1875 mg/kg
Species : Rat
OECD Guideline 402 (Acute Dermal Toxicity)

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)
Oral route : LD50 = 500 mg/kg

Dermal route : LD50 = 2500 mg/kg

Inhalation route (n/a) : LC50 = 1.5 mg/l

DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL (CAS: 6846-50-0)
Oral route : LD50 > 2000 mg/kg
Species : Rat

Dermal route : LD50 > 2000 mg/kg
Species : Guinea pig

Inhalation route (n/a) : LC50 > 0.12 mg/l
Species : Rat

Respiratory or skin sensitisation :

BUTANONE (CAS: 78-93-3)
Local lymph node stimulation test : Non-Sensitiser.
Species : Guinea pig
OECD Guideline 406 (Skin Sensitisation)

4-HYDROXY-4-METHYLPENTAN-2-ONE (CAS: 123-42-2)
Local lymph node stimulation test : Non-Sensitiser.
Species : Guinea pig

OECD Guideline 406 (Skin Sensitisation)

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)
Local lymph node stimulation test : Non-Sensitiser.
Species : Guinea pig
OECD Guideline 406 (Skin Sensitisation)

DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL (CAS: 6846-50-0)
Local lymph node stimulation test : Non-Sensitiser.
Species : Guinea pig

Germ cell mutagenicity :

4-HYDROXY-4-METHYLPENTAN-2-ONE (CAS: 123-42-2)
Mutagenesis (in vitro) : Negative.
OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL (CAS: 6846-50-0)
Mutagenesis (in vitro) : Negative.
OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

Ames test (in vitro) : Negative.

HYDROGEN PEROXIDE SOLUTION ...% (CAS: 7722-84-1)
Mutagenesis (in vivo) : Negative.
Species : Mouse
OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Ames test (in vitro) : Negative.

BUTANONE (CAS: 78-93-3)
Mutagenesis (in vivo) : Negative.
Species : Mouse
OECD Guideline 474 (Mammalian Erythrocyte Micronucleus Test)

Mutagenesis (in vitro) : Negative.
OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)
No mutagenic effect.

Mutagenesis (in vitro) : Negative.
OECD Guideline 476 (In vitro Mammalian Cell Gene Mutation Test)

Reproductive toxicant :

BUTANONE (CAS: 78-93-3)
No toxic effect for reproduction
Study on fertility : Species : Rat
OECD Guideline 414 (Prenatal Developmental Toxicity Study)

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)
No toxic effect for reproduction
Study on fertility : Species : Rat
Study on development : Species : Rat

OECD Guideline 421 (Reproduction / Developmental Toxicity Screening Test)

DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL (CAS: 6846-50-0)
Suspected of damaging the unborn child.
Study on fertility : Species : Rabbit

Specific target organ systemic toxicity - repeated exposure :

4-HYDROXY-4-METHYLPENTAN-2-ONE (CAS: 123-42-2)
Oral route : C = 100 mg/kg bodyweight/day
Species : Rat
Duration of exposure : 90 days
OECD Guideline 422 (Combined Repeated Dose Toxicity Study with the Reproduction / Developmental Toxicity Screening Test)

Inhalation route : C = 1.04 mg/litre/6h/day
Species : Rat
Duration of exposure : 90 days

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)
Oral route : C = 200 mg/kg bodyweight/day
Species : Rat
Duration of exposure : 28 days
OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity in Rodents)

11.1.2. Mixture

Acute toxicity :

Oral route : Harmful if swallowed.
LD50 = 1600 mg/kg

Inhalation route (Dusts/mist) : Harmful by inhalation.
Duration of exposure : 4 h
LC50 = 4.6 mg/l

Skin corrosion/skin irritation :

Corrosivity : Causes severe skin burns.

Serious damage to eyes/eye irritation :

Causes serious eye damage.

Germ cell mutagenicity :

No mutagenic effect.

Carcinogenicity :

No carcinogenic effect.

Reproductive toxicant :

Suspected of damaging the unborn child.

SECTION 12 : ECOLOGICAL INFORMATION

Harmful to aquatic life with long lasting effects.

The product must not be allowed to run into drains or waterways.

12.1. Toxicity

12.1.1. Substances

DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL (CAS: 6846-50-0)

Fish toxicity :	NOEC >= 6 mg/l Duration of exposure : 96 h OECD Guideline 203 (Fish, Acute Toxicity Test)
Crustacean toxicity :	EC50 = 1.46 mg/l Duration of exposure : 48 h NOEC = 0.7 mg/l Duration of exposure : 21 days
Algae toxicity :	ECr50 > 7.49 mg/l Species : Chlorella pyrenoidosa Duration of exposure : 72 h OECD Guideline 201 (Alga, Growth Inhibition Test)

HYDROGEN PEROXIDE SOLUTION ...% (CAS: 7722-84-1)

Fish toxicity :	LC50 = 16.4 mg/l Species : Pimephales promelas Duration of exposure : 96 h
Crustacean toxicity :	EC50 = 2.4 mg/l Species : Daphnia pulex Duration of exposure : 48 h NOEC = 0.63 mg/l Species : Daphnia magna Duration of exposure : 21 days
Algae toxicity :	ECr50 = 1.38 mg/l Species : Skeletonema costatum Duration of exposure : 72 h NOEC = 0.63 mg/l Species : Skeletonema costatum Duration of exposure : 72 h

4-HYDROXY-4-METHYLPENTAN-2-ONE (CAS: 123-42-2)

Fish toxicity :	LC50 > 100 mg/l Species : Oryzias latipes Duration of exposure : 96 h OECD Guideline 203 (Fish, Acute Toxicity Test)
Crustacean toxicity :	EC50 > 1000 mg/l Species : Daphnia magna Duration of exposure : 48 h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test) NOEC = 1000 mg/l Species : Daphnia magna Duration of exposure : 48 h OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)
Algae toxicity :	ECr50 > 1000 mg/l

Species : Pseudokirchnerella subcapitata
Duration of exposure : 72 h
OECD Guideline 201 (Alga, Growth Inhibition Test)

NOEC = 1000 mg/l
Species : Pseudokirchnerella subcapitata
Duration of exposure : 72 h
OECD Guideline 201 (Alga, Growth Inhibition Test)

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)

Fish toxicity : LC50 = 44.2 mg/l
Species : Poecilia reticulata
Duration of exposure : 96 h
OECD Guideline 203 (Fish, Acute Toxicity Test)

NOEC = 18 mg/l
Species : Poecilia reticulata
Duration of exposure : 96 h
OECD Guideline 203 (Fish, Acute Toxicity Test)

Crustacean toxicity : EC50 = 39 mg/l
Species : Daphnia magna
Duration of exposure : 48 h
OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

NOEC = 26.7 mg/l
Species : Daphnia magna
OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Algae toxicity : ECr50 = 5.6 mg/l
Species : Pseudokirchnerella subcapitata
Duration of exposure : 72 h
OECD Guideline 201 (Alga, Growth Inhibition Test)

NOEC = 2.1 mg/l
Species : Pseudokirchnerella subcapitata
Duration of exposure : 72 h
OECD Guideline 201 (Alga, Growth Inhibition Test)

BUTANONE (CAS: 78-93-3)

Fish toxicity : LC50 = 2993 mg/l
Species : Pimephales promelas
Duration of exposure : 96 h
OECD Guideline 203 (Fish, Acute Toxicity Test)

Crustacean toxicity : EC50 = 308 mg/l
Species : Daphnia magna
Duration of exposure : 48 h
OECD Guideline 202 (Daphnia sp. Acute Immobilisation Test)

Algae toxicity : ECr50 = 2029 mg/l
Species : Pseudokirchnerella subcapitata

Duration of exposure : 96 h
OECD Guideline 201 (Alga, Growth Inhibition Test)

12.1.2. Mixtures

No aquatic toxicity data available for the mixture.

12.2. Persistence and degradability

12.2.1. Substances

HYDROGEN PEROXIDE SOLUTION ...% (CAS: 7722-84-1)
Biodegradability : Rapidly degradable.

BUTANONE (CAS: 78-93-3)
Biodegradability : Rapidly degradable.

4-HYDROXY-4-METHYLPENTAN-2-ONE (CAS: 123-42-2)
Biodegradability : Rapidly degradable.

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)
Biodegradability : Rapidly degradable.

DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL (CAS: 6846-50-0)
Biodegradability : Rapidly degradable.

12.3. Bioaccumulative potential

12.3.1. Substances

HYDROGEN PEROXIDE SOLUTION ...% (CAS: 7722-84-1)
Octanol/water partition coefficient : log Koe = -1.57

BUTANONE (CAS: 78-93-3)
Octanol/water partition coefficient : log Koe = 0.3

4-HYDROXY-4-METHYLPENTAN-2-ONE (CAS: 123-42-2)
Octanol/water partition coefficient : log Koe = 1.9

PEROXYDE DE METHYLETHYLCETONE (CAS: 1338-23-4)
Octanol/water partition coefficient : log Koe < 0.3

DIISOBUTANOATE DE 2,2,4-TRIMETHYL-1,3-PENTANEDIOL (CAS: 6846-50-0)
Octanol/water partition coefficient : log Koe = 4.91

Bioaccumulation : BCF = 1.95

12.4. Mobility in soil

No data available.

12.5. Results of PBT and vPvB assessment

No data available.

12.6. Other adverse effects

No data available.

German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 1 : Slightly hazardous for water.

SECTION 13 : DISPOSAL CONSIDERATIONS

Proper waste management of the mixture and/or its container must be determined in accordance with Directive 2008/98/EC.

13.1. Waste treatment methods

Do not pour into drains or waterways.

Waste :

Waste management is carried out without endangering human health, without harming the environment and, in particular without risk to water, air, soil, plants or animals.

Recycle or dispose of waste in compliance with current legislation, preferably via a certified collector or company.

Do not contaminate the ground or water with waste, do not dispose of waste into the environment.

Respect the local and national regulations

Soiled packaging :

Empty container completely. Keep label(s) on container.

Give to a certified disposal contractor.

Respect the local and national regulations

SECTION 14 : TRANSPORT INFORMATION

Transport product in compliance with provisions of the ADR for road, RID for rail, IMDG for sea and ICAO/IATA for air transport (ADR 2017 - IMDG 2016 - ICAO/IATA 2017).

14.1. UN number

3105

14.2. UN proper shipping name

UN3105=ORGANIC PEROXIDE TYPE D, LIQUID

(peroxyde de methylethylcetone)

14.3. Transport hazard class(es)

- Classification :

5.2

14.4. Packing group

-

14.5. Environmental hazards

-

14.6. Special precautions for user

ADR/RID	Class	Code	Pack gr.	Label	Ident.	LQ	Provis.	EQ	Cat.	Tunnel
	5.2	P1	-	5.2	-	125 ml	122 274	E0	2	D

IMDG	Class	2°Label	Pack gr.	LQ	EMS	Provis.	EQ
	5.2	-	-	125 ml	F-J,S-R	122 274	E0

IATA	Class	2°Label	Pack gr.	Passager	Passager	Cargo	Cargo	note	EQ
	5.2	-	-	570	5 L	570	10 L	A20 A150	E0
	5.2	-	-	Forbidden	Forbidden	-	-	A20 A150	E0

For limited quantities, see part 2.7 of the OACI/IATA and chapter 3.4 of the ADR and IMDG.

For excepted quantities, see part 2.6 of the OACI/IATA and chapter 3.5 of the ADR and IMDG.

14.7. Transport in bulk according to Annex II of Marpol and the IBC Code

No data available.

SECTION 15 : REGULATORY INFORMATION

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

- Classification and labelling information included in section 2:

The following regulations have been used:

- EU Regulation No. 1272/2008 amended by EU Regulation No. 2018/669 (ATP 11)

- Container information:

No data available.

- Particular provisions :

No data available.

- German regulations concerning the classification of hazards for water (WGK, AwSV vom 18/04/2017, KBws) :

WGK 1 : Slightly hazardous for water.

15.2. Chemical safety assessment

No data available.

SECTION 16 : OTHER INFORMATION

Since the user's working conditions are not known by us, the information supplied on this safety data sheet is based on our current level of knowledge and on national and community regulations.

The mixture must not be used for other uses than those specified in section 1 without having first obtained written handling instructions.

It is at all times the responsibility of the user to take all necessary measures to comply with legal requirements and local regulations.

The information in this safety data sheet must be regarded as a description of the safety requirements relating to the mixture and not as a guarantee of the properties thereof.

Wording of the phrases mentioned in section 3 :

H225	Highly flammable liquid and vapour.
H242	Heating may cause a fire.
H271	May cause fire or explosion; strong oxidiser.
H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H336	May cause drowsiness or dizziness.
H361d	Suspected of damaging the unborn child.
H412	Harmful to aquatic life with long lasting effects.

Abbreviations :

DNEL : Derived No-Effect Level

PNEC : Predicted No-Effect Concentration

CMR: Carcinogenic, mutagenic or reprotoxic.

ADR : European agreement concerning the international carriage of dangerous goods by Road.

IMDG : International Maritime Dangerous Goods.

IATA : International Air Transport Association.

ICAO : International Civil Aviation Organisation

RID : Regulations concerning the International carriage of Dangerous goods by rail.

WGK : Wassergefahrdungsklasse (Water Hazard Class).

GHS02 : Flame

GHS05 : Corrosion

GHS07 : Exclamation mark
GHS08 : Health hazard
PBT: Persistent, bioaccumulable and toxic.
vPvB : Very persistent, very bioaccumulable.
SVHC : Substances of very high concern.