

ENGLISH

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

1.1 Product identifiers

Product name: Decolourizing Solution
 Product Number: 80295

1.2 Identified uses of the relevant substance or mixture and uses advised against

Identified uses relevant: Professional uses, Health Services, scientific research and development

1.3 Details of the supplier of the safety data sheet

Manufacturer/Supplier: Liofilchem®
 Address: Via Scozia, 64026 - Roseto degli Abruzzi (TE)
 Telephone number: 085/8930745
 Fax number: 085/8930330
 E-mail address: liofilchem@liofilchem.com

1.4 Emergency telephone number

Pavia - National Center for Toxicological Information 0382/24444;
 Milan - Hosp. Niguarda Ca' Granda 02/66101029;
 Bergamo - Hosp. "Pope John XXIII" 800/883300;
 Verona - Hosp. Integrated Verona 800/011858
 Florence - Hosp. "Careggi" U.O. Medical Toxicology 055/7947819;
 Rome - "A. Gemelli" Polyclinic 06/3054343;
 Rome - "Umberto I" Polyclinic 06/49978000;
 Rome - "Bambino Gesù Pediatric Hospital" 06/68593726
 Naples - Hosp. "A. Cardarelli" 081/5453333;
 Foggia - Hosp. University of Foggia 800/183459

SECTION 2. HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

The product is classified as dangerous pursuant to the provisions of Regulation (EC) 1272/2008 (CLP) (and subsequent amendments and adjustments). The product therefore requires a safety data sheet compliant with the provisions of Regulation (EC) 1907/2006 and subsequent amendments. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification according to Regulation (EC) No 1272/2008 [EU-GHS/CLP]

Flam. Liq. 2, Flammable liquids (Category 2); H225
 Eye Irrit. 2, Eye irritation (Category 2); H319
 STOT SE 3, Specific target organ toxicity —single exposure (Category 3); H336

2.2 Label elements

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

Pictogram



Signal word

Danger

Hazard statement(s)

H225 Highly flammable liquid and vapour
 H319 Causes serious eye irritation
 H336 May cause drowsiness or dizziness
 EUH066 Repeated exposure may cause skin dryness or cracking

Precautionary statement(s)

P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
 P233 Keep container tightly closed.
 P261 Avoid breathing dust/fume/gas/mist/vapours/spray
 P280 Wear protective gloves/ protective clothing / eye protection / face protection.
 P312 Call a POISON CENTER or doctor/physician if you feel unwell.
 P370+P378 In case of fire: use carbon dioxide, foam, chemical powder to extinguish.

Supplemental Hazard Statements - none

2.3 Other hazards - none

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

3.2 Mixtures:

Hazardous substances

CAS n°	EC n°	Index n°	Registration number REACH	Concentration	Classification according Regulation (EC) No 1272/2008
Acetone					
67-64-1	200-662-2	606-001-00-8	01-2119471330-49-XXXX	45.0 – 55.0 %	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336, EUH066
Ethanol					
64-17-5	200-578-6	603-002-00-5	01-2119457610-43-XXXX	45.0 – 50.0 %	Flam. Liq. 2 H225, Eye Irrit. 2 H319
2-Propanol					
67-63-0	200-661-7	603-117-00-0	01-2119457558-25-XXXX	1.0 – 5.0 %	Flam. Liq. 2 H225, Eye Irrit. 2 H319, STOT SE 3 H336

Additional Information:

For full text of H-statements, see SECTION 16

SECTION 4. FIRST AID MEASURES

4.1 Description of first aid measures

General advice: Consult a physician. Show this safety data sheet to the doctor in attendance.

EYES: Remove contact lenses, if present. Wash immediately with plenty of water for at least 30-60 minutes, opening the eyelids fully. Get medical advice/attention.

SKIN: Remove contaminated clothing. Rinse skin with a shower immediately. Get medical advice/attention.

INGESTION: Have the subject drink as much water as possible. Get medical advice/attention. Do not induce vomiting unless explicitly authorised by a doctor.

INHALATION: Get medical advice/attention immediately. Remove victim to fresh air, away from the accident scene. If the subject stops breathing, administer artificial respiration. Take suitable precautions for rescue workers.

4.2 Most important symptoms and effects, both acute and delayed

For symptoms and effects due to the substances contained, see chap. 11..

ETHANOL

Acute dose-dependent effects.

Skin: irritation, delipidization

Nervous system: in case of depression ingestion

Eyes: irritation, corneal damage

Upper airways: irritation

Lungs: irritation

Chronic effects.

Skin: irritation, delipidization

Nervous system: headache, asthenia, depression

Upper airways: irritation

Lungs: irritation.

2-PROPANOL

Acute dose-dependent effects.

Skin: irritation.

Nervous system: ingestion and inhalation cause depression.

Eyes: irritation.
Nose: irritation.
Lungs: irritation.
Chronic effects.
Skin: irritation, sensitization, delipidization.

4.3 Indication of any immediate medical attention and special treatment needed

No data available

SECTION 5. FIRE-FIGHTING MEASURES

5.1 Extinguishing media

SUITABLE EXTINGUISHING EQUIPMENT

The means of extinction are: carbon dioxide, foam, chemical powder. For losses and spills of the product that have not ignited, the water spray can be used to disperse flammable vapors and protect people engaged in stopping the leak.

UNSUITABLE EXTINGUISHING EQUIPMENT

Do not use jets of water. Water is not effective for putting out fires but can be used to cool containers exposed to flames to prevent explosions.

5.2 Special hazards arising from the substance or mixture

HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Excess pressure may form in containers exposed to fire at a risk of explosion. Do not breathe combustion products.

Ethylene glycol: If possible, move the containers of the substance away from the fire or cool, since if exposed to thermal adiation or if directly involved it can give rise to toxic fumes. Vapors can cause dizziness, fainting or choking.

5.3 Advice for firefighters

GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

SECTION 6. ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

Send away individuals who are not suitably equipped. Use explosion-proof equipment. Eliminate all sources of ignition (cigarettes, flames, sparks, etc.) from the leakage site.

6.2 Environmental precautions

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

6.3 Methods and material for containment and cleaning up

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

6.4 Reference to other sections

Any information on personal protection and disposal is given in sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

7.1 Precautions for safe handling

Keep away from heat, sparks and naked flames; do not smoke or use matches or lighters. Without adequate ventilation, vapours may accumulate at ground level and, if ignited, catch fire even at a distance, with the danger of backfire. Avoid bunching of electrostatic charges. When performing transfer operations involving large containers, connect to an earthing system and wear antistatic footwear. Vigorous stirring and flow through the tubes and equipment may cause the formation and accumulation of electrostatic charges. In order to avoid the risk of fires and explosions, never use compressed air when handling. Open containers with caution as they may be pressurised. Do not eat, drink or smoke during use. Avoid leakage of the product into the environment.

7.2 Conditions for safe storage, including any incompatibilities

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Store in a cool and well ventilated place, keep far away from sources of heat, naked flames and sparks and other sources of ignition. Keep containers away from any incompatible materials, see section 10 for details.

7.3 Specific end uses

Apart from the uses described in section 1.2 are not covered other specific uses.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

• ACETONE

Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m ³	ppm	mg/m ³	ppm			
VLEP	ITA	1210	500					
OEL	EU	1210	500					
TLV-ACGIH		1187	500	1781	750			
Predicted no-effect concentration - PNEC								
Normal value in fresh water				10,6				mg/l
Normal value in marine water				1,06				mg/l
Normal value for fresh water sediment				30,4				mg/kg
Normal value for marine water sediment				3,04				mg/kg
Normal value for water, intermittent release				21				mg/l
Normal value of STP microorganisms				100				mg/l
Normal value for the terrestrial compartment				29,5				mg/kg
Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Oral				62 mg/kg/d				
Inhalation				200 mg/m ³	2420 mg/m ³	1210 mg/m ³		
Skin				62 mg/kg/d				186 mg/kg/d

• ETHANOL

Threshold Limit Value								
Type	Country	TWA/8h		STEL/15min		Remarks / Observations		
		mg/m ³	ppm	mg/m ³	ppm			
WEL	GBR	1920	1000					
TLV-ACGIH				1884	1000			(ir TRS)
Predicted no-effect concentration - PNEC								
Normal value in fresh water				0,96				mg/l
Normal value in marine water				0,79				mg/l
Normal value for fresh water sediment				3,6				mg/kg
Normal value for marine water sediment				2,9				mg/kg
Normal value of STP microorganisms				580				mg/l
Normal value for the food chain (secondary poisoning)				0,72				mg/kg
Normal value for the terrestrial compartment				0,63				mg/kg/d
Health - Derived no-effect level - DNEL / DMEL								
Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Skin							VND	343 mg/m ³
Inhalation					1900 mg/m ³	VND	VND	950 mg/m ³

• **2-PROPANOL**

Threshold Limit Value						
Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m ³	ppm	mg/m ³	ppm	
AGW	DEU	500	200	1000	400	
MAK	DEU	500	200	1000	400	
VLA	ESP	500	200	1000	400	
VLEP	FRA			980	400	
GV/KGVI	HRV	999	400	1250	500	
TLV	ROU	200	81	500	203	
MV	SVN	500	200	1000	400	
WEL	GBR	999	400	1250	500	
TLV-ACGIH		492	200	983	400	
Predicted no-effect concentration - PNEC						

8.2 Exposure controls

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration. When choosing personal protective equipment, ask your chemical substance supplier for advice. Personal protective equipment must be CE marked, showing that it complies with applicable standards. Provide an emergency shower with face and eye wash station. Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

HAND PROTECTION

Protect hands with category III work gloves (see standard EN 374).

The following should be considered when choosing work glove material: compatibility, degradation, failure time and permeability. The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

SKIN PROTECTION

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

Consider the appropriateness of providing antistatic clothing in the case of working environments in which there is a risk of explosion.

EYE PROTECTION

Wear airtight protective goggles (see standard EN 166).

RESPIRATORY PROTECTION

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type A filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

ENVIRONMENTAL EXPOSURE CONTROLS

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

Product residues must not be indiscriminately disposed of with waste water or by dumping in waterways.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance

Form Clear Liquid
 Color Colourless

Odour

characteristic

pH

No data available

Melting point/ freezing point

No data available

Initial boiling point and boiling range

No data available

Evaporation rate

No data available

Flammability (solid, gas)

No data available

Upper / lower flammability or explosive limits	No data available
Flash point	<23°C
Auto-ignition temperature	Not applicable
Decomposition temperature	Not applicable
Vapour pressure	No data available
Vapour density	No data available
Relative density	No data available
Water solubility	Soluble
Partition coefficient: n-octanol/water	Not applicable
Viscosity	No data available
Explosive properties	No data available
Oxidizing properties	No data available

9.2 Other safety information

VOC (Directive 2010/75/EU) 48,01 % - 379,28 g/litre

VOC (volatile carbon) 24,88 % - 196,51 g/litre

Explosive properties Not applicable (absence of chemical groups associated with explosive properties in accordance with the provisions of Annex I, Part 2, Chapter 2.1.4.3 of Reg. (EC) 1272/2008 - CLP).

SECTION 10. STABILITY AND REACTIVITY

10.1 Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

10.2 Chemical stability

The product is stable in normal conditions of use and storage.

10.3 Possibility of hazardous reactions

The vapours may also form explosive mixtures with the air.

ETHANOL

Forms explosive mixtures with air (Pohanish, 2009).

It can react violently with strong oxidants and strong acids; bases, strong peroxides; acetic anhydride, acetyl bromide, acetyl chloride, aliphatic amines, bromine pentafluoride, calcium oxide (quicklime), cesium oxide, chloryl perchlorate, disulphoryl difluoride, ethylene glycol methyl ether, iodine heptafluoride, isocyanates, nitrosyl perchlorate, platinum ally black diplomat; potassium-tert-butoxide, potassium, potassium oxide, potassium peroxide, potassium superoxide; phosphorus (III) oxide, silver nitrate, silver oxide, sulfuric acid, oleum, sodium, sodium hydrazide, sodium peroxide, sulfinyl yanamide, tetrachlorosilane, s-triazine-2,4,6-triol, triethoxy aluminum tribromide, triethylaluminium, uranium fluoride, xenon tetrafluoride (Pohanish, 2009).

The mixture with concentrated hydrogen peroxide forms powerful explosives. The mixture with mercury nitrate (II) forms explosive fulminate mercury. Forms explosive complexes with perchlorates, magnesium perchlorate (form ethyl perchlorate), silver perchlorate (Pohanish, 2009).

Reacts with hypochlorous acid or chlorine to form explosive and heat sensitive ethyl hypochlorite (which can decompose when cold) (Pohanish, 2009).

2-PROPANOL

Forms explosive mixtures with air. Reacts violently with oxidants. At high temperatures it can react vigorously with oxygen in the air.

ACETONE

Risk of explosion on contact with: bromine trifluoride, fluorine dioxide, hydrogen peroxide, nitrosyl chloride, 2-methyl-1,3 butadiene, nitromethane, nitrosyl perchlorate.

May react dangerously with: potassium tert-butoxide, alkaline hydroxides, bromine, bromoform, isoprene, sodium, sulphur dioxide, chromyl chloride, nitric acid, chloroform, peroxy monosulphuric acid, phosphoryl oxychloride, chromosulphuric acid, fluorine, strong oxidising agents, strong reducing agents.

10.4 Conditions to avoid

ETHANOL

Flow or agitation of the substance can generate electrostatic charges due to low conductivity (Pohanish, 2009).

Heating, open flames and sparks.

No ventilation.

Exposure to air.

Containers not properly closed.

2-PROPANOL

Exposure to sunlight. Heating and open flames. No ventilation. Exposure to air.

ACETONE

Avoid exposure to: sources of heat, naked flames.

10.5 Incompatible materials

ETHANOL

Strong oxidants. Perchlorates, peroxides, silver oxide, hydrogen peroxide, potassium, sodium, chlorine, permanganate or chromate in acid solutions, ruthenium oxide, uranium hexafluoride, iodine or bromine pentafluoride, chromyl chloride, iodine heptafluoride, bromide or chloride of acetyl, disulfuryl difluoride, platinum, nitric acid, peroxides, calcium hypochlorite, chlorine oxides, silver nitrate, dipotassium dioxide, hexoxide tetraphosphorus, chromium trioxide, fluorine nitrate, strong oxidants.

2-PROPANOL

Aluminum and oxidants. Plastic and rubbers.

ACETONE

Acids, oxidising substances.

10.6 Hazardous decomposition products

In the event of thermal decomposition or fire, gases and vapours that are potentially dangerous to health may be released.

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

ETHANOL

Metabolism, kinetics, mechanism of action and other information

It is rapidly absorbed by ingestion and by inhalation, poorly by skin contact. It is distributed throughout the body's tissues and fluids, especially the brain, lungs and liver. About 90-98% of the ingested amount is metabolized in the liver to acetaldehyde and then to acetic acid. Acetaldehyde is rapidly metabolised to acetic acid by liver aldehyde dehydrogenase. The acetic acid is subsequently oxidized in the peripheral tissues to carbon dioxide and water. A small amount of ethanol is excreted unchanged in urine, sweat and exhaled air. Its effects are due to the inhibition of synaptic transmission in the brain.

It also has an action on lipid metabolism.

Acute toxicity

Rat LD50 (oral): 7060 mg / kg

Rabbit LD50 (cutaneous): > 20000 mg / kg

Rat LC50-10 hours (by inhalation): 20000 ppm

Skin corrosion / irritation

The substance is not irritating.

Corrosion to the respiratory tract

Date not available.

Serious eye damage / eye irritation

The substance is irritating to the eyes, but resolution is generally quick and complete.

The substance causes pain, tearing, corneal epithelial lesions and conjunctival hyperemia.

Germ cell mutagenicity

In vitro it leads to increased sister chromatid exchanges in hamster or hamster ovary cell cultures human lymphocytes. In vivo, increased sister chromatid exchanges are observed in rats and mice exposed orally to massive doses of ethanol for several weeks. It also determines dominant lethal mutations in rats and mice exposed orally at 1240 mg / kg / day for 3 days and the formation of micronuclei in bone marrow erythrocytes in mice starting at doses of 620 mg / kg intraperitoneally.

Chromosomal aberration assays were negative.

Carcinogenicity

Alcohol consumption can cause cancer of the oral cavity, pharynx, larynx, esophagus, colorectal, liver (hepatocellular carcinoma) and, in women, breast cancer. There has also been an association between alcohol consumption and pancreatic cancer. There is sufficient epidemiological evidence showing that individuals who consume alcohol and who have deficiencies in the oxidation of acetaldehyde to acetate have substantially increased risk of developing cancer, particularly of the esophagus and upper respiratory and digestive tract (IARC, 2012).

The International Agency for Research on Cancer (IARC) allocates ethanol in alcoholic beverages in group 1 (known Carcinogen to humans) based on evidence of sufficient carcinogenicity in both humans (regarding alcohol consumption) and in laboratory animals (regarding ethanol) (IARC, 2012)

Reproductive toxicity

- Adverse Effects on Sexual Function and Fertility:

Ingestion of the substance alters male fertility: testicular atrophy, decreased libido and testosterone.

In women there are alterations in the menstrual cycle. A decrease in the incidence of conception per cycle is also reported in cases of substance consumption in quantities of 5 glasses per week.

- Adverse effects on development:

The consumption of alcohol causes multiple congenital anomalies: growth retardation, CNS alterations, external malformations. The frequency of these anomalies depends on the daily dose of alcohol absorbed.
In women who took daily doses of 10 to 20 g, it was observed: an increase in spontaneous abortions, intellectual (reduced IQ) and behavioral delays.

- Effects on or through lactation: Ethanol crosses the placental barrier.

Excessive consumption of alcoholic beverages during breastfeeding in women who were already drinking alcohol during pregnancy may increase the negative effects.

Specific target organ toxicity (STOT) - single exposure

In humans, in case of acute intoxication due to ingestion, the manifestations are essentially neuropsychic (intellectual and psychic excitation with motor incoordination of the cerebellar type, then more or less deep coma and possible paralysis of the respiratory centers).

Specific target organ toxicity (STOT) - repeated exposure

Repeated exposure by ingestion causes toxicity to the nervous system (polyneuritis, cerebellar atrophy, memory disorders), to the digestive system (fatty liver and cirrhosis of the liver, chronic gastritis, pancreatitis) of the cardiovascular system (myocardopathy, arterial hypertension).

Aspiration hazard

Date not available.

Likely routes of exposure

The main routes of occupational exposure are ingestion, inhalation and skin contact.

Delayed, immediate and chronic effects from short and long term exposure

Acute toxicity is mild both by ingestion and by inhalation. Through the skin it is minimal.

In humans, in case of acute intoxication due to ingestion, the manifestations are essentially neuropsychic (intellectual and psychic excitation with motor incoordination of the cerebellar type, then more or less deep coma and possible paralysis of the respiratory centers). These disorders are closely related to the blood alcohol level.

Industrial alcohol which has denaturation additives, for concentrations equal to 70% of ethanol, causes serious gastric lesions. In case of inhalation of ethanol vapors, the risk of severe intoxication is small.

The chronic effects of alcoholism by ingestion are: neuropsychic (polyneuritis, cerebellar atrophy, memory disorders), digestive (fatty liver and cirrhosis of the liver, chronic gastritis, pancreatitis), cardiovascular (myocardopathy, arterial hypertension) and haematological.

In the industrial field, synergistic hepatotoxic effects can occur due to simultaneous exposure to chlorinated solvents and by interactions with amides, oximes, thiurams and carbonates, inhibitors of aldehyde dehydrogenase.

In case of repeated inhalation of ethanol vapors there is irritation of the eyes, upper airways, headaches, fatigue, decreased ability to concentrate and alertness.

Studies show that excessive alcohol consumption is a factor that causes arteriosclerosis, while moderate consumption has a protective power. At the skin level, repeated contact can cause erythema and edema in particular if there is an occlusion that determines evaporation.

2-PROPANOL

ACUTE TOXICITY

LD50 (Cutaneous): 12870 mg/kg rabbit (INRS, 2009)

LD50 (Oral): > 4396 mg/kg rat (INRS, 2009) 4396-5500 mg/kg

LC50 (Vapour inhalation): 72600 mg/m³ rat (INRS, 2009)

LC50 (inhalation): 27200 mg/m³/4h Mouse (INRS, 2009)

SKIN CORROSION / SKIN IRRITATION.

It is scarcely irritating to intact or abraded skin of rabbits and guinea pigs (INRS, 2009).

SERIOUS EYE DAMAGE / EYE IRRITATION.

In humans, exposure to isopropanol vapors (3 minutes of exposure at 400 ppm) caused mild eye irritation (INRS, 2009).

In rabbit eyes a 70% solution (0.1 ml) caused moderate to severe reversible irritation in 14 days; an instillation of the substance can induce ocular lesions

that persist for more than 21 days (INRS, 2009).

RESPIRATORY OR SKIN SENSITIZATION.

It does not meet the classification criteria for this hazard class.

MUTAGENICITY ON GERMINAL CELLS.

It does not meet the classification criteria for this hazard class.

CARCINOGENICITY.

Suspected of causing cancer.

REPRODUCTION TOXICITY.

It does not meet the classification criteria for this hazard class.

SPECIFIC TOXICITY FOR TARGET ORGANS (STOT) - SINGLE EXPOSURE.

It is irritating to the respiratory system. In high concentrations it causes CNS depression with narcosis.

SPECIFIC TARGET ORGAN TOXICITY (STOT) - REPEATED EXPOSURE.

The liquid has degreasing characteristics of the skin. In rats, long-term inhalation and / or digestive exposure essentially causes CNS depression and kidney injury.

DANGER IN CASE OF SUCTION.

It does not meet the classification criteria for this hazard class.

SECTION 12. ECOLOGICAL INFORMATION**12.1 Toxicity****ETHANOL**

EC50 - Crustaceans. > 10 mg / l / 48h

EC50 - Algae / Aquatic Plants. > 10 mg / l / 72h

EC10 Algae / Aquatic Plants. > 11 mg / l / 72h

Chronic NOEC for Pisces. 12.34 mg / l

Chronic NOEC for Algae / Aquatic Plants. > 3 mg / l

Short-term effects

Fish (*Pimephales promelas*) LC50-96 hours > 100 mg / l (OECD, 2004);

Crustaceans (*Artemia salina*) LC50-24 hours: 1833 mg / l (OECD, 2004);

Crustaceans (*Paramecium caudatum*) 4-hour LC50: 5980 mg / l (OECD, 2004);

Algae (*Chlorella vulgaris*) EC50-96 hours: 1000 mg / l (growth inhibition) (OECD, 2004).

Long-term effects

Crustaceans (*Ceriodaphnia* sp.) NOEC-10 days: 9.6 mg / l (effects on reproduction) (OECD, 2004)

Algae (*Lemna gibba*) NOEC-7 days: 280 mg / l (OECD, 2004).

2-PROPANOL

LC50 - for Fish 1400 mg/l/96h *Lepomis macrochirus* (HSDB, 2015)

EC50 - for Crustacea 1400 mg/l/48h *Crangon crangon* (HSDB, 2015; OECD, 1997)

EC50 - for Algae / Aquatic Plants > 1000 mg/l/72h *Scenedesmus subspicatus*

LC10 for Fish 1500 mg/l/96h *Rasbora heteromorpha*

Chronic NOEC for Crustacea 141 mg/l/16d *Daphnia* (*crescita*)

Terrestrial plant (*Lactuca sativa*) EC50-3 days : 2100 mg/l

NOEC-21 days : 30 mg/L (OECD, 1997)

ACETONE

LC50 - for Fish 5540 mg/l/96h *Lepomis*

EC50 - for Crustacea 8800 mg/l/48h *Daphnia magna*

Chronic NOEC for Crustacea 2212 mg/l *Daphnia magna*

12.2 Persistence and degradability**ETHANOL**

The vapor pressure (7906 Pa at 25 ° C) indicates that when released into the atmosphere, ethanol exists only as vapor in the atmosphere where it degrades by reaction with photochemically produced hydroxyl radicals; for this reaction in air is Estimated to have a half-life of 36 hours (HSDB, 2015).

Ethanol does not contain chromophores that absorb wavelengths at > 290 nm, and therefore it is not expected to be susceptible to direct photolysis by solar radiation (HSDB, 2015).

Hydrolysis is not expected to be an important environmental fate process since ethanol is devoid of functional groups which hydrolyze in environmental conditions (pH 5 to 9) (HSDB, 2015).

Ethanol was biodegraded with half-lives of the order of a few days using microcosms built with soil sandy with low organic content and groundwater, this indicates that biodegradation is a process of important environmental fate in soil and water (HSDB, 2015).

12.3 Bioaccumulative potential**ETHANOL**

An estimated BCF value of 3 suggests low bioconcentration potential in aquatic organisms (HSDB, 2015).

12.4 Mobility in soil**ETHANOL**

Ethanol is not persistent in the environment. The fugacity model (level III) shows that, released in the environment it is mainly distributed in air and water. The relative distributions between the sub-funds are 57% in air, 34% in water and 9% in soil. This prediction is supported by the limited data available on prevailing concentrations, which show that ethanol has been detected in outdoor air and river water (OECD, 2004). The Koc of 2.75 (determined by the log Kow of 0.44) indicates that if released to the ground, ethanol has much mobility high and, if released in water, it does not adsorb to suspended solids and sediments (HSDB, 2015).

The Henry's law constant of 5×10^{-6} atm-m³ / mole indicates that the volatilization is from surfaces of moist soil that from water surfaces is an important fate process (for a model river and a lake model were estimated volatilization half-lives, respectively, of 5 and 39 days) (HSDB, 2015). The vapor pressure indicates that ethanol can volatilize from dry soil surfaces

(HSDB, 2015).

12.5 Results of PBT and vPvB assessment

This mixture contains no substances evaluated PBT or vPvB

12.6 Endocrine disrupting properties

The mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

None

SECTION 13. DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods

Product

Reuse, when possible. Product residues should be considered special hazardous waste. The hazard level of waste containing this product should be evaluated according to applicable regulations.

Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations. Waste transportation may be subject to ADR restrictions.

Contaminated packaging

Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

SECTION 14. TRANSPORT INFORMATION

14.1 UN number

ADR/RID: 1993 IMDG: 1993 IATA: 1993

14.2 UN proper shipping name

ADR/RID: FLAMMABLE LIQUID, N.O.S. (ETHANOL, ACETONE)

IMDG: FLAMMABLE LIQUID, N.O.S. (ETHANOL, ACETONE)

IATA: FLAMMABLE LIQUID, N.O.S. (ETHANOL, ACETONE)

14.3 Transport hazard class(es)

ADR/RID: 3 IMDG: 3 IATA: 3

14.4 Packaging group

ADR/RID: II IMDG: II IATA: II

14.5 Environmental hazards

ADR/RID: no IMDG: no IATA: no

14.6 Special precautions for user

no data available

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

no data available

15. REGULATORY INFORMATION

This safety datasheet complies with:

- the requirements of European Parliament and of the Council Regulation (EC) No. 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) and Commission Regulation (EU) No. 453/2010 amending Commission Regulation (EC) No. 1907/2006.
- the requirements of Commission Regulation EU 2020/878

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

The product is classified, coded and labeled in accordance with EU Regulation on Hazardous Materials.

15.2 Chemical Safety Assessment

This product has not been made a chemical safety assessment.

16. OTHER INFORMATION

Text of H code(s) and R-phrases mentioned in Section 3

Flam. Liq. 2 Flammable liquid, category 2
Eye Irrit. 2 Eye irritation, category 2
STOT SE 3 Specific target organ toxicity - single exposure, category 3
H225 Highly flammable liquid and vapour.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
EUH066 Repeated exposure may cause skin dryness or cracking.

Abbreviations and acronyms

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure

Training advice

The product must be used by qualified personnel. It is recommended to provide basic training with regard to safety and health at work to ensure proper handling of the product.

Further information

The information in this document is based on the present state of our knowledge. The user must ensure the accuracy and completeness of such information in relation to the specific use intended.

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