

Material safety data sheet
In compliance with Regulation 1907/2006

Supplier :
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Trade name

OKEAN OXYGEN– liquid oxygen bleach

Part 1: 11. Identification of substance and company

1.1. Identification of substance / detergent:	Reg. № 01-211XXXXXX-XX-00XX
-trade name	Hydrogen peroxide 50%;
- chemical name	Hydrogen peroxide 50%;
-synonyms	Hydrogen peroxide (Perhydrol), Hydrogen dioxide, peroxide
1.2. Identified usage of substance that are relevant and uses that are not recommended	Used in the food, textile, pharmaceutical and chemical industries, and especially as a cleaning agent and brightener of woolen and cotton fabrics, cleaning of leather; in the manufacture of paper; widely used in medicine and cosmetics.
1.3. Telephone number in case of emergency	Telephone: 02/857 00 20 (9-17 h). Toxicology Pirogov - 02/9154233; 9154346

Part 2: Hazard identification –Look part 16. of MSDS

2.1. Classification of the substance or composite Classification according to CLP (Regulation (EC)№1272/2008)	<p>„Danger”- Ox.Liq 2 – H 272, Skin Corr.1B – H314</p> <p>„Danger”– oxidising fluid, hazard category 2</p> <p>corrosion / irritation, hazard category 2</p> <p>H272 – May intensify fire; oxidizer</p> <p>H314 – Causes severe skin burns and eye damage.</p> <p>„Warning” – Acute Tox. 4 (*)-H332 Acute Tox. 4 (*)-H302</p> <p>„Warning”– Acute toxicity (inhalation), hazard cat. 4 Acute toxicity (oral), hazard cat.</p> <p>H332 – Harmful if inhaled H302 – Harmful if swallowed</p> <p>P210; P280; P306+P360; P301+P330+P331;P303+P361+P353; P304+P340</p> <p>„Oxidizing”(O) R:5- Heating may cause an explosion</p>
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<p>Classification according to DSD (Directive 67/548/EEC)</p> <p>2.1.1 Adverse effects on human health</p> <p>2.1.2 Adverse effects on environment</p>	<p>R:8- Contact with combustible material may cause fire</p> <p>„Corrosive”(C) R:20/22 Harmful by inhalation and if swallowed</p> <p>R:35- Causes severe burns</p> <p>S: (1/2-)-17-26-28-36/37/39-45</p> <p>Corrosive to eyes, skin, nose, throat, lungs and gastrointestinal tract. Corrodes the mucous membranes and eyes, causing irreversible damage to tissues, including blindness. Carcinogenic effects in animals, not observed in humans</p> <p>The toxic effects of the product are related to its corrosive action. Although this environmental hazard is limited due to product properties: no bioenlargement; significant abiotic and biotic diminishing, no toxicity of decreasing products (H₂O и O₂).</p>
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<p>2.2.Label elements</p>	<div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">  GHS03 </div> <div style="text-align: center;">  GHS05 </div> <div style="text-align: center;">  GHS07 </div> </div> <p>H272 ; H332 ; H302 ; H314</p> <p>P210; P280; P306+P360; P301+P330+P331;</p> <p>P303+P361+P353; P304+P340</p>
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<p>2.3.Additional dangers</p>	<p>Not combustible, but can contribute to the ignition of other substances (organic materials such as paper, fabrics, cotton, leather, wood or other fuel) and to lead to dangerous and sometimes explosive reactions. By connecting with fuels can cause fire.Liberates oxygen which maintains the combustion of the organic materials and may cause overpressure in restricted / confined space.</p>
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Part 3: Composition/Information on components -See Part 15 and 16. of the MSDS

Dangerous components	Chem. Form. Concentr.	CAS №	EC №	Annex- Index№	Warning. danger- CLP	Safety precautions -CLP	Danger marks R and S phrases-DSD
hydrogen peroxide	H₂O₂ 30%<=<60%	7722-84-1	231-765-0	008-003-00-9	H272 H314 H332 H302	P210; P306+P360 P280; P304+P340 P301+P330+P331; P303+P361+P353;	O R:5 R: 8 C R:20/22-35 S: (1/2-)-17-26-28- 36/37/39-45

molecular mass 34,00 g/mol

Part 4: First aid measures

4.1 Description of first aid measures

Inhalation:

- Victim has to be moved from the gassed place to fresh air. Artificial respiration may be required.
- In case of respiratory difficulties or respiratory symptoms, seek medical attention.

Skin contact:

- Remove contaminated shoes and clothing; flush the contaminated skin with running water when needed, use soap several times.
- Warm up the victim (with blankets), provide with clean clothes. Immediately seek medical attention.

Eye contact:

- Immediately flush with running water for 15 minutes, with widely opened eyelids.
- In case of troubles with eyelids' opening, wash the eye with **oxybuprocaine**.
- In each case seek specialized medical attention from ophthalmologist.

Ingestion: * Take the victim to the hospital.

- In case the victim is fully conscious:
- Rinse the mouth with water.
- Drink additional 1-2 glasses water.
- Do not induce vomiting.
- In case the victim is unconscious:

Never give anything by mouth to an unconscious person.

Do the usual first aid steps- artificial respiration or administration of oxygen.

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

Inhalation: causes cough and in the case of prolonged and repeated exposure, there is a risk of sore throat, nose bleeds, chronic bronchitis.

Skin contact:

causes irritation and temporary whitening in the contact areas, risk of burns

Ingestion: causes redness and swelling of the eyelids

- risk of serious and lasting consequences;
- direct eye contact is likely to cause injury to the cornea

Ingestion: - pallor and turning blue of the face

- strong redness, risk of burns and perforation of the esophagus, accompanied by shock
- release of fluids in the mouth and nose with a risk of suffocation

- risk of swelling of the throat and choking.
- Bloating, belching
- nausea and vomiting (bloody).
- Cough and risk of chemical pneumonia

4.3. Indications for immediate medical attention and special treatment

* Severity of injuries and the estimated toxicity depends on the concentration and duration of exposure.

Inhalation –significant.

Eye contact -Consultation with an ophthalmologist.

Skin contact: Apply usual treatment for burns.

If swallowed - oxygen treatment by intratracheal intubation. If necessary to do a tracheotomy.

Put a catheter in the stomach to release the gas. Do not apply gastric lavage (under a risk of perforation).

Upon severe pain: the victim to be injected with an anesthetic before being taken to hospital.

Part 5: Fire fighting measures

5.1. Fire fighting media

5.1.1. Suitable fire fighting media

Large amounts of water, water spray.

5.1.2. Liberation of hazardous products

* Exuded oxygen (O₂) in exothermic decomposition could ignite if there is a fire around. * May cause spontaneous ignition of combustible materials

5.1.3. Unsuitable extinguishing media

Do not add any chemicals.

5.2. . Specific hazards associated with the substance

* Every contact with combustible substances may cause fire or explosion.* Decomposition indoors/ in containers may cause explosion under pressure. * If necessary, move the unprotected containers aside.

* Stay away from containers that have been exposed to fire without first cool them enough.

5.3. Advice for firefighters

* In case of intervention and close proximity wear acid resistant clothing. Wear masks and chemical protective clothing when you are in close proximity to the accident.

* After intervention, you have to clean the equipment. Soak pre-contaminated clothing in water.

Part 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Evacuate the staff, unprepared for emergency situations.

Intervention to be undertaken only by trained staff, employees who are trained and aware of the dangers of the product.

	<p>Ensure fresh air access.</p> <p>Evacuate the staff unprepared for emergency situations. Intervention to be undertaken only by trained staff, employees who are trained and aware of the dangers of the product.</p> <p>Ensure fresh air access. Avoid direct contact with the substance.</p>
6.2. Environmental protection measures:	<p>Small amounts can drain into sewers diluted with plenty of water.</p> <p>Immediately notify the authorities in case a heavy drainage.</p>
6.3. Cleaning agents	<p>If it is possible, surround large Qty flowed out liquid with sand or earth. Dilute thoroughly with water to reduce the concentration to at least 5% or less (percentage). Then for finishing it may be used sodium metabisulfite or sodium sulphite. Do not add any chemical products.</p> <p>The product should not be put back in the original tank / container after drawing out.</p>
Part 7: Handling and storage of detergent.	
<p>7.1. Safe handling</p> <p>* Warn people about the dangers that this product may cause.</p> <p>* Follow safety statements</p>	<ul style="list-style-type: none"> . Ensure adequate ventilation in workplace . Keep away from combustible materials and sources of heat. Avoid contact with organics. . Use only equipment and materials compatible with the product . Before starting, passivate the pipeline network and containers in the way recommended by the manufacturer . . Do not put back any unused product in the storage container . . Make sure you have enough water in case of emergency. . Containers and equipment used for handling with any particular product should be used only for this product.
<p>7.2. Storage and incompatibilities</p> <p>* Do not leave the product to circulate by sealed flaps or in the container without opening.</p>	<ul style="list-style-type: none"> . In ventilated, cool areas. Keep away from sources of heat. . Keep away from incompatible products and flammable substances . Store in a container with a safety valve or orifice. . Store in original containers, tightly closed, with air-tight wall around the storage containers and the transport installation. . Check the temperature regularly. . For storage of large quantities please consult the manufacturer.
7.3. Specific end-use	<ul style="list-style-type: none"> . Avoid materials such as cotton, wool, leather, as well as excessive heat and contamination. Contamination can result in decomposition of the

	<p>peroxide and generation of oxygen gas, leading to high pressure and deformation of the storage containers. Hydrogen peroxide should be stored only discharged into containers and transferred only in a certain way (see FMC Technical Bulletins).</p> <p>. Any container used for the processing of hydrogen peroxide have to be made only from:</p> <p>* glass * stainless steel, * aluminum and *plastics.</p>
Part 8: Exposure control and personal protection.	
<p>8.1. Control parameters</p> <p>Threshold values of chemical agents in the air of the working environment</p>	<p><u>*according to Regulation 13 concerning the protection of working force against risks.</u></p> <p>Long-lasting exposition (8 h.) -1,5mg/m³ aerosol fog</p> <p>Brief exposition (15min.)- no restriction mg/m³</p>
8.2. Exposure control	
<u>8.2.1.Adequate engineering control</u>	Recommended system for local or general ventilation with drain-off function to maintain the exposure of personnel under the allowable limits of the air-borne effects.
<p>8.2.2. Individual safety measures such as personal precautions</p> <p>a) protection of respiratory system</p> <p>b)hand protection</p> <p>c)eye protection</p> <p>d)skin protection</p>	<p>Acc.art.4 of Dir.98/24/EC -see Part 7.1.</p> <p>In case of liberation of emissions, use face masks type "NO cartridge". Gas masks to be used indoors / by shortage of oxygen, in case of heavy uncontrollable emissions / whenever the mask and cartridge do not provide adequate protection.Use only respiratory protection that conforms to international / national standards.</p> <p>Gloves have to conform to Dir. 89/686/EEC and the standard EN374. Protective gloves - chemical resistant neoprene or rubber. Recommended materials: PVC, rubber.</p> <p>Use chemical safety goggles and / or full-face helmet when there is a risk of spraying. In the area keep wash fountain.</p> <p>Wear protective clothing, including boots, gloves, lab coat, apron or coveralls, as appropriate, to prevent skin contact.</p>
<u>8.2.3. Monitor the impact of the substance / detergent on the environment</u>	Hydrogen peroxide occurs naturally in the environment at levels of 0.1 to 4 parts per billion (in the air) and 0.001 - 0.1 mg / l (in the water) There is no restriction for industrial emissions in the <u>air</u> . The most sensitive organisms in the <u>water</u> are the algae and the estimated concentration that does not give effect is 10 parts per miliard.In the <u>soil</u> the hydrogen peroxide decomposes rapidly to H ₂ O и O ₂ .
Part 9: Physical and chemical properties	
9.1. General information	* threshold values on air emissions

	TV = 1,5 mg / m ³ for 8 hours, no restrictions for 15 min
* appearance	transparent, colorless liquid
*odor	acute
*concentration and *pH	20 % <= conc. < 60 %/, pH= between 1 - 4
* boiling point	*108 °C (for 35 % solution of Hydrogen peroxide) *115 °C (for 50 % solution of Hydrogen peroxide)
* flash point	Not inflammable
* self-igniting (gas, solid subs.)	Hydrogen peroxide is not inflammable
* explosiveness	Danger of explosion: 1.with inflammable liquids. 2.By heating. 3.with definite materials (see Part 10).
*oxidizing properties	. strong oxidizer
*steam pressure	. 75,6 mN/m- (20°C) (for 50 % solution of Hydrogen peroxide
*relative density	.1,20 g/sm ³ - aa 50,0 solution of Hydrogen peroxide .1,24 g/sm ³ - aa 60,0 solution of Hydrogen peroxide
*solubility	. into polar organic solvents
* water solubility	. highly soluble into water
*distribution coef.(n-octanol/water)	. N/A
*viscosity	. 1,17 mPa.s-for 50,0% solution of Hydrogen peroxide
*vapors density	. 1, 0 g/sm ³ -for 50,0% solution of Hydrogen peroxide
*speed of evaporation	N/A
9.2.Additional information * temperature of decomposition *boiling point	. at T >= 60 °C- self-accelerating temperature of decomposition accompanied with liberation of oxygen (SADT) . at T < 60 °C- slow decomposition *- 33 °C(for 35 % solution of Hydrogen peroxide) *- 52 ° C (for 50 % solution of Hydrogen peroxide)
Part 10: Stability and reactivity information	
10.1.Reactivity	Very strong oxidizer involved in a number of oxidation reactions, as well as a weak acid in aqueous solution. Decomposes to oxygen and water by heating, under the influence of ultraviolet rays, and also in the presence of ions of transition metals.

10.2. Chemical stability	. Stable under normal conditions , slow liberation of gas. . No restrictions for industrial emissions in the <u>air</u> .
10.3 Possibility for hazardous reactions	. Decomposition of Hydrogen peroxide could start as a result of increasing of temperature or catalytic contaminations. . Long-lasting decomposition of Hydrogen peroxide may lead to explosion under pressure.
10.4. Conditions to avoid	Light and heat /and sources of heat. It decomposes easily partial under direct sunlight. Contamination.
10.5 Incompatible materials	Acids. Bases. Metals. Salts of metals. Reducing agents. Organics. Inflammable substances.
10.6. Hazardous decomposition products	By decomposition it evolves fumes/ heat and oxygen gas. (O ₂)
Part 11: Toxicology information	
11.1. Information about toxicology effects	
11.1.1. Acute toxicity	Acute oral toxicity: LD(lethal dose) 50, rat, 841 mg/kg (60 % Hydrogen peroxide) and 1.232 mg/kg (35 % Hydrogen peroxide) Acute dermal toxicity: LD 50, rabbit, >2.000 mg/kg(35% Hydrogen peroxide) Acute inhalation toxicity: LC 50,4 h, rat, 2.000 mg/m ³ (H ₂ O ₂) ; LC 50, 0,1 h, mice, 2.170 mg/m ³ (H ₂ O ₂)
11.1.2. Corrosion /skin irritation	.Rabbit, skin irritation(Hydrogen peroxide < 50 %) .Rabbit, skin ulceration,1h(Hydrogen peroxide >=50 %) . Guinea pigs – no skin sensitivity.
11.1.3. Serious eye damage/ eye irritation	.Rabbit, Serious eye damage (70% Hydrogen peroxide)
11.1.4. Sensitization of respiratory organs or skin	N/A. *corrosive to mucous membrane
11.1.5. Mutagenicity	.In vitro, no metabolytic activation .In vivo, no mutagenic effect.
11.1.6. Carcinogenicity	Oral, after long-term exposition mice-affected organ :duodenum, cancerogenic effect Dermal - after long-term exposition,

	<p>mice, no cancerogenic effect. Oral, after long-term exposition, rat, cancerogenic effect.</p> <p>Oral, after long-term exposition, rat./</p> <p>mice, Affected organ: gastrointestinal system.</p>
11.1.7.Reproductive toxicity	No scientific information
11.1.8.TOST(specific target organ systemic toxicity) — single exposure	No data. *Conc. especially dangerous for live and health:-75 parts per million (105mg/m ³).
11.1.9. TOST(specific target organ systemic toxicity) — repeated exposure	* corrosive to the mucous membrane, eyes and skin, * the severity of injuries and the estimated intoxication depend directly on the concentration and duration of exposure
11.1.10. Dangerous by inhalation	Inhalation- Insignificant
Part 12: Environmental information	
12.1.Toxicity	<p>.Fish, Pimephales promelas(vertebrate),</p> <p>LC (lethal dose) 50 , for 96 hours, 16,4 mg/l</p> <p>.Crustacea, Daphnia pulex, no effect of toxical concentration</p> <p>50, 48 hours, 2,4 mg/l</p>
12.2. Persistence and degradability	<p>. Aerobic, t 1/2 < 1 min. Result: fast and significant biolowering</p> <p>.Conditions: biological sediment</p> <p>. Anaerobic -Result: inapplicable</p>
12.3. Potential for bioaccumulation	<p>Potentially bioaccumulation</p> <p>.Result : no bioaccumulation (enzymic metabolism)</p>
12.4 Portability in soil	.Soil/sediment-Result: insignificant vaporization and adsorption
12.5. Results of PBT assessment	<p>. significant abiotic and biotic decreasing</p> <p>. no toxicity of decreasing products (H₂O,O₂).</p>
12.6. Other Adverse Effects	<p>. environmental hazard is limited.</p> <p>Air, Henry's Law const. (H) = 1 mPa.m³/mol</p> <p>Result: negligible volatility at 20 ° C</p> <p>. Air, condensing on contact with water droplets</p> <p>Result: blurring. Water-Result: negligible evaporation</p>
Part 13: Disposal considerations	
13.1. Methods for waste treatment	<p>. Discard according to local and state regulations.</p> <p>. Dispose only small quantities.</p> <p>. Dillute with water to conc. 0.1%.</p>

	. After these actions, the product can be drained into the sewer. For large quantities, contact the manufacturer: Waste Code-06 01 99
13.2. Disposal of packaging	. Rinse empty containers thoroughly with water, and waste water treat in the same way as a waste product. . Do not rinse specialized containers. . Empty and clean containers can be reused according to the waste-regulations. Code 15:01:02 - plastic packaging

Part 14: Transportation information

	No in the UN list	Shipping name according to the UN list	Danger category	Packing group	Label	Environmental hazards	Special precautions for consumers
ADR	UN 2014	Hydrogen peroxide till 70% solution	5.1 + 8	II		Environmental hazard is limited, It is related to the corrosive action	Observe strictly the written instructions for transportation and
RID	UN 2014	Hydrogen peroxide till 70% solution	5.1 + 8	II		Environmental hazard is limited, It is related to the corrosive action	those from the label and from the MSDS
IMDG	UN 2014	Hydrogen peroxide till 70% solution	5.1 + 8	II		Harmful to aquatic organisms, the danger is limited	
ICAO	Transportation is prohibited above 40% solution of Hydrogen peroxide						

Part 15: Information in accordance with the current regulations.

- **15.1** Specific regulations / legislation for the substance, relating to safety, health and environmental protection. Applicable European regulations and laws:

* [Regulation \(EC\) No. 1907/2006](#) of the European Parliament concerning the Registration, Evaluation, Authorization and Restriction of Chemicals (REACH) as amended * [Regulation \(\(EU\) No. 453/2010](#) amending Regulation (EC) No. 1907/2006 of European Parliament concerning the

Registration, Evaluation, Authorization and Restriction of Chemicals (REACH), Annex I *

* [Regulation \(EC\) No. 1272/2008](#) of the European Parliament concerning the classification, labeling and packaging of substances and mixtures, as amended

* [Directive 1999/45/EC](#) of the European Parliament concerning the approximation of the laws, regulation and administrative provisions of the Member States relating to the classification, labeling and packaging of the substances and mixtures , as amended *

* [European Directive 76/769/EEC](#), relating to restrictions on the marketing and use of certain dangerous substances and preparations as amended

ECB – ESIS – European chemical substances information system – IUCLID Datasheet

* [Council Directive 98/24/EC](#) concerning the protection of the health and safety of workers from the risks related to chemical agents at work, as amended *

* [Commission Directive 2000/39/EC](#) establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work, as amended

* [Council Directive 89/656/EEC](#) on the minimum health and safety requirements for the use by workers of personal protective equipment at the workplace *

* [Directive 2008/98/EC](#) of the European Parliament and of the Council of 19 November 2008 on waste

[European Directive 2000/60/CE](#) for establishing a framework for community action in the field of water policy;

[European Directive 91/689/CEE](#) on hazardous waste

[European Directive 94/62/CE](#) on packaging and waste;

[European Directive 1999/31/CE](#) on the landfill of waste

- 15.2 Chemical safety assessment

Chemical safety assessment of this substance is implemented / made as part of the registration of the substance from the manufacturer / supplier in accordance with the regulation REACH.

Part16: Additional information

By different concentrations of Hydrogen peroxide:

$C \geq 70\%$ (***) Ox. Liq. 1; H271 May cause fire or explosion; strong oxidizer. **O**; R5: $C \geq 70\%$

Skin Corr. 1A; H314: Causes severe skin burns and eye damage. **C**; R35: $C \geq 70\%$

$50\% \leq C < 70\%$ (***) (*) Ox. Liq. 2; H272 May intensify fire; oxidizer **O**; R8: $C \geq 50\%$ **Xn**; R20: $C \geq 50\%$

Skin Corr. 1B; H314: Causes severe skin burns and eye damage. **C**; R34: $50\% \leq C < 70\%$

$35\% \leq C < 50\%$ Skin Irrit. 2; H315: Causes skin irritation. **Xi**; R37/38: $35\% \leq C < 50\%$

$8\% \leq C < 50\%$ Eye Dam. 1; H318: Causes serious eye damage. **Xn**; R22: $C \geq 8\%$ **Xi**; R41: $8\% \leq C < 50\%$

$5\% \leq C < 8\%$ Eye Irrit. 2; H319 Causes serious eye irritation **Xi**; R36: $5\% \leq C < 8\%$

$C \geq 35\%$ STOT SE 3; H335 May cause respiratory irritation.

16.1. Classification according to DSD

(Directive/548/EIO)



O- oxidizer



C-corrosive

*Danger signs

*R-phrases

*S- phrases

R: 5- Heating may cause an explosion

R: 8- Contact with combustible material may cause fire

R:20/22- Harmful by inhalation and if swallowed

R:35- Causes severe burns.

S: (1/2-) Keep locked up and out of the reach of children

S:17- Keep away from combustible material.

S:26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice

S:28- After contact with skin, wash immediately with plenty of water.

S:36/37/39- Wear suitable protective clothing, gloves and eye/face protection.

S:45- In case of accident or if you feel unwell seek medical advice immediately (show the label where possible)

16.2. Classification according to CLP

(Regulation /EC/ №1272/2008)



GHS03



GHS05



GHS07

‘Danger’

<p>*GHS-pictograms; signal word</p> <p>*H- hazard statements</p> <p>*P- safety recommendations</p>	<p>H272 May intensify fire; oxidizer</p> <p>H314 Causes severe skin burns and eye damage</p> <p>H332 Harmful if inhaled.</p> <p>H302 Harmful if swallowed.</p> <p>P210- Keep away from heat/sparks/open flames/hot surfaces – No smoking</p> <p>P280- Wear protective gloves/protective clothing/eye protection/face protection</p> <p>P306+P360- IF ON CLOTHING: Rinse immediately contaminated clothing and skin with plenty of water before removing clothes</p> <p>P301+P330+P331- IF SWALLOWED: Rinse mouth. Do NOT induce vomiting</p> <p>P303+P361+P353 – IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower</p> <p>P304+P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing</p>
<p>16.3. Additional H-statements for hazard phrases и R-risk phrases</p>	<p>H271 May cause fire or explosion; strong oxidizer.</p> <p>R:36- Irritating to eyes.</p> <p>R:37/38- Irritating to respiratory system and skin</p> <p>R:41- Risk of serious damage to eyes</p>