

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1. Product identifier

Product form : Mixture
Trade name : REDOXY PLUS
Product group : Trade product
Other means of identification : E224 - E300 - E330 - E353

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

1.2.1. Relevant identified uses

Main use category : Professional use

Industrial/Professional use spec : For professional users only

Use of the substance/mixture : Stabiliser, antioxidant made of citric acid, potassium metabisulphite, ascorbic acid, metatartaric acid.

1.2.2. Uses advised against

Restrictions on use : Food/feedstuff additives

1.3. Details of the supplier of the safety data sheet

Manufacturer

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1.4. Emergency telephone number

Country	Organisation/Company	Address	Emergency number	Comment
Australia	NSW Poisons Information Centre	The Children's Hospital at Westmead Locked Bag 4001 NSW 2145 Westmead	13 11 26 +56 2 2 247 3600	
Canada	Ontario Poison Centre (OPC)	The Hospital for Sick Children 555 University Avenue ON M5G 1X8 Toronto	1-800-268-9017 (416) 813-5900	
Canada	BC Drug and Poison Information Centre (DPIC)	655 West 12th Avenue BC V5Z 4R4 Vancouver	1-800-567-8911 (604) 682-5050	
China	National Poison Control Center	Chinese Center for Disease Control and Prevention Nanwei road, No.29 100050 Beijing	+86 10 831 32 046	
Croatia	Centar za kontrolu otrovanja Institut za medicinska istraživanja i medicinu rada	Ksaverska Cesta 2 p.p. 291 10000 Zagreb	+385 1 234 8342	
Czech Republic	Toxikologické informační středisko Klinika pracovního lékařství VFN a 1. LF UK	Na Bojišti 1 120 00 Praha 2	+420 224 919 293 +420 224 915 402	
Georgia	National Toxicology Information Advisory Center	Tbilisi State Medical University Department of Toxicology - 7 Asatiani St. 380 077 Tbilisi	+995 99 533320	
Greece	Poisons Information Centre Children's Hospital P&A Kyriakou	11762 Athens	+30 2 10 779 3777	
Hungary	Országos Kémiai Biztonsági Intézet Egészségügyi Toxikológiai Tájékoztató Szolgálat	Nagyvárad tér 2. 1437 Budapest, Pf. 839 1097 Budapest	+36 80 20 11 99	
Israel	Israel Poison Information Center Rambam Health Care Campus	6 Ha'Aliya Street 31096 Haifa	+972 4 854 1900	
Japan	Japan Poison Information Center	Tsukuba Medical Center 1-1-1 Amakubo 305-0005 Tsukuba City, Ibaraki	+81-29-856-3566 +81-72-727-2499	
Malta	Medicines & Poisons Info Office	Mater Dei Hospital MSD Msida	+356 2545 6504	
New Zealand	National Poisons Centre	Dunedin School of Medicine, University of Otago PO Box 913 9054 Dunedin	0800 764 766 +56 2 2 247 3600	
Poland	National Poisons Information Centre The Nofer Institute of Occupational Medicine (Łódź)	ul. Teresy 8 P.O. BOX 199 90950 Łódź	+48 42 63 14 724	
Romania	Department of Clinical Toxicology Spitalul de Urgenta Floreasca	Calea Floreasca Bucuresti	+40 21 230 8000	

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Country	Organisation/Company	Address	Emergency number	Comment
Russia	Информационно-консультативный центр по токсикологии (RTIAC) Министерство здравоохранения Российской Федерации	3 Сухаревская Площадь Блок 7 129090 г. Москва	+7 495 628 1687 (только на русском)	
Slovenia	Center za klinično toksikologijo in farmakologijo Interna klinika, UKCL	Zaloška cesta 7 1525 Ljubljana	+386 41 650 500	
South Africa	Tygerberg Poison Information Centre	Division of Clinical Pharmacology Faculty of Medicine and Health Sciences Stellenbosch University - PO Box 241 8 000 Cape Town	0861 555 777 +56 2 2 247 3600	
Turkey	Ulusal Zehir Merkezi (UZEM) Refik Saydam Hıfzısıhha Merkezi Başkanlığı	Cemal Gürsel Cd. No: 18 Sıhhiye Çankaya 6590 Ankara	114	Information is provided to public and medical personnel on poisoning incidents via 114.
United Kingdom	Guy's & St Thomas' Poisons Unit Medical Toxicology Unit, Guy's & St Thomas' Hospital Trust	Avonley Road SE14 5ER London	0870 243 2241	
United States of America	American Association of Poison Control Centers	515 King St., Suite 510 VA 22314 Alexandria	1-800-222-1222 +56 2 2 247 3600	

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP]

Serious eye damage/eye irritation, H318

Category 1

Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation H335

Full text of hazard classes and H-statements : see section 16

Adverse physicochemical, human health and environmental effects

Causes serious eye irritation.

2.2. Label elements

Labelling according to Regulation (EC) No. 1272/2008 [CLP] Extra labelling to display Extra classification(s) to display

Hazard pictograms (CLP)

:



GHS05



GHS07

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Signal word (CLP)	: Danger
Hazardous ingredients	: Potassium metabisulphite - E224
Hazard statements (CLP)	: H318 - Causes serious eye damage. H335 - May cause respiratory irritation.
Precautionary statements (CLP)	: P261 - Avoid breathing dust, fume, gas, mist, vapours, spray P271 - Use only outdoors or in a well-ventilated area P280 - Wear protective gloves, protective clothing, eye protection, face protection 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 P310 - Immediately call a POISON CENTER, a doctor
EUH-statements	: EUH031 - Contact with acids liberates toxic gas

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Anhydrous citric acid - E330	(CAS-No.) 77-92-9 (EC-No.) 201-069-1	25 - 50	Eye Irrit. 2, H319
Potassium metabisulphite - E224	(CAS-No.) 16731-55-8 (EC-No.) 240-795-3 (REACH-no) 01-2119537422-45	25 - 50	Eye Dam. 1, H318 STOT SE 3, H335

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general	: If symptoms persist call a doctor.
First-aid measures after inhalation	: Remove person to fresh air and keep comfortable for breathing. If symptoms persist, call a physician.

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First-aid measures after skin contact	: After contact with skin, wash immediately and thoroughly with water and soap. If symptoms persist, call a physician.
First-aid measures after eye contact	: In case of eye contact, immediately rinse with clean water for 10-15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
First-aid measures after ingestion	: If swallowed, rinse mouth with water (only if the person is conscious). Never give anything by mouth to an unconscious person. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects	: More detailed information: See section 11.
Symptoms/effects after inhalation	: May cause respiratory irritation.
Symptoms/effects after eye contact	: Eye irritation. Serious damage to eyes.

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

Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	: carbon dioxide (CO ₂), powder, alcohol-resistant foam, water spray.
Unsuitable extinguishing media	: Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Hazardous decomposition products in case of fire	: Toxic fumes may be released. Carbon oxides (CO, CO ₂). Sulphur oxides.
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5.3. Advice for firefighters

Protection during firefighting	: Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
Other information	: Do not contaminate ground and surface water. Dispose in a safe manner in accordance with local/national regulations.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Protective equipment	: Wear personal protective equipment.
Emergency procedures	: Ventilate spillage area. Avoid contact with skin and eyes.
Measures in case of dust release	: Avoid dust formation.

6.1.2. For emergency responders

Protective equipment	: Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
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6.2. Environmental precautions

Do not flush into surface water or sewer system.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up	: Mechanically recover the product. Contain leaking substance, pump over in suitable containers. Clean contaminated surfaces with an excess of water.
Other information	: Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

Concerning personal protective equipment to use, see section 8. For further information refer to section 13.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

- Precautions for safe handling : Avoid dust formation. Store tightly closed in a dry and cool place. Ensure good ventilation of the work station. Avoid contact with skin and eyes. Wear personal protective equipment.
- Hygiene measures : Do not eat, drink or smoke when using this product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

- Technical measures : Keep only in the original container.
- Storage conditions : Keep container tightly closed to prevent moisture pick-up. Store in a dry, cool place. Keep out of direct sunlight.
- Incompatible products : Oxidizing agents, bases and reducing agents. Strong acids.
- Heat and ignition sources : Keep away from ignition sources (including static discharges).

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Potassium metabisulphite - E224 (16731-55-8)		
EU	IOELV TWA (ppm)	≈ 0,5 ppm
EU	IOELV STEL (ppm)	≈ 1 ppm
EU	Notes	S02
USA - ACGIH	ACGIH STEL (ppm)	0,25 ppm
USA - ACGIH	Remark (ACGIH)	S02

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station.

Personal protective equipment:

Refer to protective measures listed in Sections 7 and 8.

Materials for protective clothing:

acid resistant clothing

Hand protection:

Protective gloves. Protective gloves made of PVC. Butyl rubber gloves. Nitrile rubber gloves. Natural rubber

Type	Material	Permeation	Thickness (mm)	Penetration	Standard
Chemically resistant protective gloves	Nitrile rubber (NBR)	6 (> 480 minutes)	0.4		EN 420, EN 374
Chemically resistant protective gloves	Chloroprene rubber (CR)	6 (> 480 minutes)	0.5		EN 420, EN 374

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Chemically resistant protective gloves	Butyl rubber	6 (> 480 minutes)	0.7		EN 420, EN 374
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Eye protection:

Safety glasses

Type	Use	Characteristics	Standard
Safety glasses	Dust	With side shields	EN 166

Skin and body protection:

Wear suitable protective clothing

Type	Standard
Chemically resistant protective gloves	EN 374

Respiratory protection:

In case of insufficient ventilation, wear suitable respiratory equipment. EN 143

Environmental exposure controls:

Do not allow into drains or water courses. Avoid release to the environment.

Other information:

Do not eat, drink or smoke during work. Wash hands and other exposed areas with mild soap and water before eating, drinking or smoking and when leaving work.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Solid
Appearance	: Crystals. Powder.
Colour	: white.
Odour	: characteristic.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: > 400 °C
Freezing point	: Not applicable
Boiling point	: No data available
Flash point	: Not applicable
Auto-ignition temperature	: Not applicable
Decomposition temperature	: > 100 °C
Flammability (solid, gas)	: No data available

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Vapour pressure	: No data available
Relative vapour density at 20 °C	: No data available
Relative density	: Not applicable
Density	: $\approx 1,2 \text{ g/cm}^3 \text{ 20}^\circ\text{C}$
Solubility	: No data available
Log Pow	: No data available
Viscosity, kinematic	: Not applicable
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Explosive limits	: Not applicable

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

The product is non-reactive under normal conditions of use, storage and transport.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use. Exothermic reaction on contact with : Oxidizing agents, bases and reducing agents. on contact with reactive metals (Al, K, Zn ...).

10.4. Conditions to avoid

Heat. flames or sparks. Moisture.

10.5. Incompatible materials

oxidants, strong acids and strong bases.

10.6. Hazardous decomposition products

See Heading 5.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral)	: Not classified
Acute toxicity (dermal)	: Not classified
Acute toxicity (inhalation)	: Not classified

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Anhydrous citric acid - E330 (77-92-9)	
LD50 oral rat	≈ 5400 mg/kg bodyweight
LD50 dermal	> 2000 mg/kg bodyweight

Potassium metabisulphite - E224 (16731-55-8)	
LD50 oral rat	≈ 2300 mg/kg bodyweight

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Severe eye irritation
Additional information : Causes serious eye damage.
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : Not classified

STOT-single exposure : May cause respiratory irritation.

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity : Not classified
Chronic aquatic toxicity : Not classified

Anhydrous citric acid - E330 (77-92-9)	
LC50 fish 1	440 mg/l 48h
EC50 Daphnia 1	1535 mg/l 24h - Daphnia magna
NOEC (acute)	425 mg/l 8 days

Potassium metabisulphite - E224 (16731-55-8)	
LC50 fish 1	460 - 1000 mg/l Brachydanio rerio
EC50 Daphnia 1	88,8 mg/l Daphnia magna
EC50 other aquatic organisms 1	65 mg/l 17h - Bacteria
EC50 72h algae (1)	48,1 mg/l Senedesmus subspicatus

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12.2. Persistence and degradability

Anhydrous citric acid - E330 (77-92-9)	
Persistence and degradability	Biodegradable.

Potassium metabisulphite - E224 (16731-55-8)	
Persistence and degradability	Mineral.
Chemical oxygen demand (COD)	0,14 g O ₂ /g substance

12.3. Bioaccumulative potential

Anhydrous citric acid - E330 (77-92-9)	
Log Pow	-0,2 - -1,8 20°C
Log Kow	≈ -1,7 20°C
Bioaccumulative potential	There is no bioaccumulation.

Potassium metabisulphite - E224 (16731-55-8)	
Log Pow	≈ -4
Bioaccumulative potential	There is no bioaccumulation.

12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

No additional information available

12.6. Other adverse effects

Other adverse effects : Do not allow to enter drains or water courses.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.
Sewage disposal recommendations : Do not flush into surface water or sewer system.
Product/Packaging disposal recommendations : Empty remaining contents. Dispose of contents/container in accordance with licensed collector's sorting instructions.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

14.1. UN number

UN-No. (ADR) : Not regulated
UN-No. (IMDG) : Not regulated
UN-No. (IATA) : Not regulated
UN-No. (ADN) : Not regulated
UN-No. (RID) : Not regulated

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14.2. UN proper shipping name

Proper Shipping Name (ADR)	: Not regulated
Proper Shipping Name (IMDG)	: Not regulated
Proper Shipping Name (IATA)	: Not regulated
Proper Shipping Name (ADN)	: Not regulated
Proper Shipping Name (RID)	: Not regulated

14.3. Transport hazard class(es)

ADR

Transport hazard class(es) (ADR) : Not regulated

IMDG

Transport hazard class(es) (IMDG) : Not regulated

IATA

Transport hazard class(es) (IATA) : Not regulated

ADN

Transport hazard class(es) (ADN) : Not regulated

RID

Transport hazard class(es) (RID) : Not regulated

14.4. Packing group

Packing group (ADR)	: Not regulated
Packing group (IMDG)	: Not regulated
Packing group (IATA)	: Not regulated
Packing group (ADN)	: Not regulated
Packing group (RID)	: Not regulated

14.5. Environmental hazards

Dangerous for the environment	: No
Marine pollutant	: No
Other information	: No supplementary information available

14.6. Special precautions for user

- Overland transport

Not regulated

- Transport by sea

Not regulated

- Air transport

Not regulated

- Inland waterway transport

Not regulated

- Rail transport

Not regulated

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains no substance on the REACH candidate list

Contains no REACH Annex XIV substances

15.1.2. National regulations

Germany

VwVwS Annex reference : Water hazard class (WGK) 3, severe hazard to waters (Classification according to VwVwS, Annex 4)

12th Ordinance Implementing the Federal Immission Control Act - 12.BImSchV : Is not subject of the 12. BImSchV (Hazardous Incident Ordinance)

Netherlands

SZW-lijst van kankerverwekkende stoffen : None of the components are listed

SZW-lijst van mutagene stoffen : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Borstvoeding : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Vruchtbaarheid : None of the components are listed

NIET-limitatieve lijst van voor de voortplanting giftige stoffen - Ontwikkeling : None of the components are listed

Denmark

Recommendations Danish Regulation : Young people below the age of 18 years are not allowed to use the product

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Indication of changes:

Revision - See : *.

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Full text of H- and EUH-statements:	
Eye Dam. 1	Serious eye damage/eye irritation, Category 1
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Respiratory tract irritation
H318	Causes serious eye damage
H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
EUH031	Contact with acids liberates toxic gas

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product