

SECTION 1. Identification of the substance/mixture and of the company/enterprise

1.1. Product identifier

Product name : DESULFIN
Product code: refer to sales department

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

Specific Treatment
Sectors of use:
Manufacture of food products[SU4]
Product category:
Additive for enological use

Not recommended uses
Do not use for purposes other than those listed

1.3. Details of the supplier of the safety data sheet

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SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

2.1.1 Classification according to Regulation (EC) No 1272/2008:

Pictograms:
GHS07

Hazard Class and Category Code(s):
Eye Irrit. 2, Aquatic Chronic 3

Hazard statement Code(s):
H319 - Causes serious eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

If brought into contact with eyes, the product causes significant irritations which may last for more than 24 hours.
The product is dangerous to the environment as it is harmful to aquatic life with long lasting effects

2.2. Label elements

Labelling according to Regulation (EC) No 1272/2008:

Pictogram, Signal Word Code(s):
GHS07 - Warning

Hazard statement Code(s):
H319 - Causes serious eye irritation.
H412 - Harmful to aquatic life with long lasting effects.

Supplemental Hazard statement Code(s):
not applicable

Precautionary statements:

Prevention

P280 - Wear eye/face protection.

Response

P305+P351+P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.



P337+P313 - If eye irritation persists: Get medical advice/attention.

Disposal

P501 - Dispose of contents/container to local/regional/national/international regulations

Contains:

Ingredients: 1% copper sulphate in aqueous solution, stabilized with citric acid and potassium bisulfite(a).
Food use, oenological use. Not intended for the final consumer. In accordance with current regulations on the specific matter. Only for industrial use.

(a)=sulfites

(<Sulphur dioxide and sulphites at concentrations of more than 10 mg/kg or 10 mg/litre expressed as SO₂>in compliance with Regulation (EU) No 1169/2011 - Annex II and subsequent additions and modifications)

2.3. Other hazards

Based on the available data, no PBT or vPvB substances are present in accordance with Regulation (EC) 1907/2006, annex XIII

SECTION 3. Composition/information on ingredients

3.1 Substances

Irrilevant

3.2 Mixtures

Refer to paragraph 16 for full text of hazard statements

Substance	Concentration[w/w]	Classification	Index	CAS	EINECS	REACH
Citric acid	>= 1 < 2,5%	Eye Irrit. 2, H319		5949-29-1	201-069-1	01-2119457 026-42-XXX X
Copper sulfate pentahydrate	>= 0,1 < 1%	Acute Tox. 4, H302; Eye Dam. 1, H318; Aquatic Acute 1, H400; Aquatic Chronic 1, H410 Acute toxicity M-factor = 10 Chronic toxicity M-factor = 1 ATE oral = 481,0 mg/kg	029-023-00-4	7758-99-8	231-847-6	01-2119520 566-40-XXX X

SECTION 4. First aid measures

4.1. Description of first aid measures

Inhalation:

Ventilate the area. Move immediately the contaminated patient from the area and keep him at rest in a well ventilated area. If you feel unwell seek medical advice.

Direct contact with skin (of the pure product):.

Take off immediately contaminated clothing.
Wash immediately with plenty of running water and possibly with soap, the areas of the body that have, or are only suspected to have, come in contact with the product.

Direct contact with eyes (of the pure product):

Wash immediately and thoroughly with running water, keeping eyelids open for at least 10 minutes, then protect your eyes with a dry sterile gauze. Seek medical advice immediately

Do not use eye drops or ointments of any kind before the examination or advice from an oculist.

Ingestion:

Not dangerous. In case of malaise consult a doctor.

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

In case of contact with the eye it could cause redness and tearing

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

If eye irritation persists: Get medical advice/attention.

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suggested extinguishing media:

Water spray, CO₂, foam, dry chemical, depending on the materials involved in the fire.

Extinguishing media to avoid:

Water jets. Use water jets only to cool the surfaces of the containers exposed to fire.

5.2. Special hazards arising from the substance or mixture

No data available.

5.3. Advice for firefighters

Use protection for the breathing apparatus

Safety helmet and full protective clothing.

The water spray can be used to protect the people involved in the extinction.

You may also use self-contained breathing apparatus, especially when working in confined and poorly ventilated areas.

Keep containers cool with water spray

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1 For non-emergency personnel:

Leave the area surrounding the spill or release. Do not smoke

Wear gloves and protective clothing

6.1.2 For emergency responders:

Eliminate all unguarded flames and possible sources of ignition. No smoking.

Provide a sufficient ventilation.
Evacuate the danger area and, in case, consult an expert.

6.2. Environmental precautions

Contain spills with earth or sand.
If the product has entered a watercourse, sewers or has contaminated soil or vegetation, notify the authorities.
Dispose of the waste material in compliance with the regulations

6.3. Methods and material for containment and cleaning up

6.3.1 Containment:
Rapidly recover the product, wear a mask and protective clothing (for specifications refer to section 8.2. SDS)
Recover the product for reuse, if possible, or for removal. Possibly absorb it with inert material or suck it.
Prevent it from entering the sewer system.

6.3.2 Cleaning up:
After wiping up, wash with water the area and materials involved

6.3.3 Other information:
None in particular.

6.4. Reference to other sections

Refer to paragraphs 8 and 13 for more information

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Avoid contact and inhalation of vapors
Wear eye/face protection.
At work do not eat or drink.
See also paragraph 8 below.

7.2. Conditions for safe storage, including any incompatibilities

Keep in original container closed tightly. Do not store in open or unlabelled containers.
Keep containers upright and safe by avoiding the possibility of falls or collisions.
Store in a cool and dry place, away from heat sources and direct exposure to sunlight.

7.3. Specific end use(s)

Manufacture of food products:
Handle with care.
Store in a clean, dry, ventilated area away from heat and direct sunlight.
Keep container tightly closed.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

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Related to contained substances:

Copper sulfate pentahydrate:

Limit value - Eight hours
(ppm)/(mg/m³)

Finland: x/1 (1)

Limit value - Short term
(ppm)/(mg/m³)

Finland: x/x

Remarks:

Finland: (1) calculated as Cu

- Substance: Citric acid

PNEC

Sweet water = 0,44 (mg/l)

sediment Sweet water = 34,6 (mg/kg/sediment)

Sea water = 0,044 (mg/l)

sediment Sea water = 3,46 (mg/kg/sediment)

STP = 1000 (mg/l)

ground = 33,1 (mg/kg ground)

- Substance: Copper sulfate pentahydrate

DNEL

Systemic effects Short term Workers inhalation = 1 (mg/m³)

Systemic effects Short term Workers dermal = 13,7 (mg/kg bw/day)

Local effects Short term Workers dermal = 1 (mg/kg bw/day)

PNEC

Sweet water = 0,0078 (mg/l)

sediment Sweet water = 87 (mg/kg/sediment)

Sea water = 0,0052 (mg/l)

sediment Sea water = 676 (mg/kg/sediment)

STP = 0,23 (mg/l)

ground = 65 (mg/kg ground)

8.2. Exposure controls

Appropriate engineering controls:

Manufacture of food products:

No specific monitoring foreseen (act according to good practice and specific rules for the type of risk associated)



8.2.2 Individual protection measures:

(a) Eye / face protection

When handling the pure product use safety glasses (EN 166).

(b) Skin protection

(i) Hand protection
Not needed for normal use.

(ii) Other
Wear normal work clothing.

(c) Respiratory protection
Not needed for normal use.

(d) Thermal hazards
No hazard to report

Environmental exposure controls:

Use according to good working practices, avoiding to disperse the product in the environment.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical and chemical properties	Value	Determination method
Physical state	Clear liquid	
Colour	light blue	
Odour	not determined as it is considered not relevant for the characterization of the product	
Odour threshold	not determined as it is considered not relevant for the characterization of the product	
Melting point/freezing point	not determined as it is considered not relevant for the characterization of the product	
Boiling point or initial boiling point and boiling range	not determined as it is considered not relevant for the characterization of the product	
Flammability	not determined as it is considered not relevant for the characterization of the product	
Lower and upper explosion limit	not determined as it is considered not relevant for the characterization of the product	
Flash point	not determined as it is considered not relevant for the characterization of the product	ASTM D92
Auto-ignition temperature	not determined as it is considered not relevant for the characterization of the product	
Decomposition temperature	not determined as it is considered not relevant for the characterization of the product	
pH	2,5 ± 0,5 (20°C TQ)	
Kinematic viscosity	not determined as it is considered not relevant for the characterization of the product	
Solubility	in water	
Water solubility	soluble in all solutions	
Partition coefficient n-octanol/water (log value)	not determined as it is considered not relevant for the characterization of the product	
Vapour pressure	not determined as it is considered not relevant for the characterization of the product	
Density and/or relative density	0,95 - 1,1 (20 ° C)	
Relative vapour density	not determined as it is considered not relevant for the characterization of the product	
Particle characteristics	not determined as considered not relevant for the characterization of the product	

Physical and chemical properties	Value	Determination method
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9.2. Other information

9.2.1 Information with regard to physical hazard classes

No data available.

9.2.2 Other safety characteristics

No data available.

SECTION 10. Stability and reactivity

10.1. Reactivity

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Related to contained substances:

Citric acid:

It is not pyrophoric

Copper sulfate pentahydrate:

No risk of reactivity

10.2. Chemical stability

No hazardous reaction when handled and stored according to provisions.

10.3. Possibility of hazardous reactions

There are no hazardous reactions

10.4. Conditions to avoid

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Related to contained substances:

Citric acid:

Keep away from direct sunlight and heat. Avoid extreme humidity conditions.

Copper sulfate pentahydrate:

Nothing to report

10.5. Incompatible materials

It can generate flammable gases in contact with elementary metals, nitrides, inorganic sulfides, strong reducing agents.
It can generate toxic gases in contact with inorganic sulfides, strong reducing agents.

10.6. Hazardous decomposition products

Does not decompose when used for intended uses.

SECTION 11. Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

ATE(mix) oral = 49.081,6 mg/kg

ATE(mix) dermal = ∞

ATE(mix) inhal = ∞

(a) acute toxicity: Citric acid: Not classified

Copper sulfate pentahydrate: Ingestion - LD50 rat (mg / kg / 24h bw): 481

Skin contact - LC50 rat / rabbit (mg / kg / 24h bw): > 2000

Inhalation - LD50 rat (mg / l / 4h): na

(b) skin corrosion/irritation: Citric acid: Not corrosive

Copper sulfate pentahydrate: Not corrosive

Citric acid: Irritating

Copper sulfate pentahydrate: Irritating

(c) serious eye damage/irritation: If brought into contact with eyes, the product causes significant irritations which may last for more than 24 hours.

Citric acid: Not corrosive

Copper sulfate pentahydrate: Not corrosive

Citric acid: Irritating

Copper sulfate pentahydrate: Irritating

(d) respiratory or skin sensitisation: Citric acid: Not available

Copper sulfate pentahydrate: Not sensitizing

(e) germ cell mutagenicity: Citric acid: Not mutagenic

Copper sulfate pentahydrate: Not mutagenic

(f) carcinogenicity: Citric acid: Not carcinogenic

Copper sulfate pentahydrate: Not carcinogenic

(g) reproductive toxicity: Citric acid: Non-toxic for reproduction

Copper sulfate pentahydrate: Not toxic for reproduction

(h) specific target organ toxicity (STOT) single exposure: Citric acid: Not available

Copper sulfate pentahydrate: Unavailable

(i) specific target organ toxicity (STOT) repeated exposure: Citric acid: Rat: NOAEL: 4,000 mg / kg

LOAEL: 8,000 mg / kg

Application method: Oral

Exposure time: 10 d

Doses: 2, 4, 8, 16 g / kg bw / day

Copper sulfate pentahydrate: Unavailable

(j) aspiration hazard: Citric acid: Unavailable

Copper sulfate pentahydrate: Unavailable

Health Hazards:

Eye contact: Accidental contact of product with eyes may cause irritation.

Skin Contact: Product is not an irritant. Prolonged or repeated contact may defeat and irritate the skin and cause dermatitis in some cases.

Ingestion: The ingested product may cause irritation of the mucous membranes of the throat and digestive system leading to digestive symptoms and abnormal bowel disorders.

Inhalation: Prolonged exposure to vapours or mists of product may cause respiratory irritation.

11.2. Information on other hazards

No data available.

SECTION 12. Ecological information

12.1. Toxicity

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Related to contained substances:

Citric acid:

Acute toxicity - fish LC50 (mg / l / 96h): 440

Acute toxicity - crustaceans EC50 (mg / l / 48h): 1535

Acute toxicity algae ErC50 (mg / l / 72-96h): 425

C(E)L50 (mg/l) = 1535

Copper sulfate pentahydrate:

Minimize the release of product into the environment

C(E)L50 (mg/l) = 1,1 Acute toxicity M-factor = 10

NOEC (mg/l) = 0,123

The product is dangerous for the environment as it is toxic for aquatic organisms following acute exposure.

Use according to good working practices and avoid to disperse the product into the environment.

12.2. Persistence and degradability

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Related to contained substances:

Citric acid:

Easily biodegradable

Copper sulfate pentahydrate:

No data available.

12.3. Bioaccumulative potential

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Related to contained substances:

Citric acid:

Not bioaccumulative

Copper sulfate pentahydrate:

No data available.

12.4. Mobility in soil

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Related to contained substances:

Citric acid:

Unavailable

Copper sulfate pentahydrate:

No data available.

12.5. Results of PBT and vPvB assessment

Based on the available data, no PBT or vPvB substances are present in accordance with Regulation (EC) 1907/2006, annex XIII

12.6. Endocrine disrupting properties

No data available.

12.7. Other adverse effects

No adverse effects

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Do not reuse empty containers. Dispose of them in accordance with the regulations in force. Any remaining product should be disposed of according to applicable regulations by addressing to authorized companies.

Recover if possible. Send to authorized discharge plants or for incineration under controlled conditions. Operate according to local and National rules in force

SECTION 14. Transport information

14.1. UN number or ID number

Not included in the field of application of regulations concerning the transport of dangerous goods: by road (ADR); by rail (RID); by air (ICAO / IATA); by sea (IMDG).

14.2. UN proper shipping name

None

14.3. Transport hazard class(es)

None

14.4. Packing group

None

14.5. Environmental hazards

None

14.6. Special precautions for user

No data available.

14.7. Maritime transport in bulk according to IMO instruments

Transport in bulk is not foreseen

SECTION 15. Regulatory information

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

Restrictions relating to the product or contained substances (All. XVII Reg. EC 1907/2006): not applicable
Substances in Candidate List (art. 59 Reg. EC 1907/2006): the product does not contain SVHC in a proportion $\geq 0.1\%$.
Substances subject to authorisation (Ann. XIV Reg. CEC 1907/2006): the product does not contain SVHC in a proportion $\geq 0.1\%$.

Reg. EC 648/04: see 2.2

Reg. (EU) n. 1169/2011: see 2.2

Reg (UE) 528/2012: see.to 2.2

REGULATION (EU) No 1357/2014 - waste:
HP14 - Ecotoxic

Substances in the Candidate List (REACH Article 59)
Based on available data, no SVHC substances are present

15.2. Chemical safety assessment

No chemical safety assessment was carried out by the supplier

SECTION 16. Other information

16.1. Other information

Points modified compared to previous release: 9.1. Information on basic physical and chemical properties.

Description of hazard statements set out in paragraph 3

H319 = Causes serious eye irritation.

H302 = Harmful if swallowed.

H318 = Causes serious eye damage.

H400 = Very toxic to aquatic life.

H410 = Very toxic to aquatic life with long lasting effects.

Classification and procedure used to derive the classification for mixtures according to Regulation (EC) 1272/2008 [CLP]:

Classification according to Regulation (EC) Nr. 1272/2008

H319 - Causes serious eye irritation. Classification procedure: Calculation method

H412 - Harmful to aquatic life with long lasting effects. Classification procedure: Calculation method

Main normative references:

Reg. (CE) n. 1907 del 18/12/06 REACH (Registration, Evaluation and Authorisation of CHemicals) et seq.

Reg. (CE) 1272/2008 CLP (Classification Labelling and Packaging) et seq.

Regulation (EC) n. 648 of 31/03/04 (on detergents) et seq.

Regulation (UE) n. 1169/2011 (on the provision of food information to consumers)

Directive 2012/18/EU (on the control of major-accident hazards involving dangerous substances) et seq.

Regulation (UE) 528/2012 (Biocides) et seq.

Training required: This document must be submitted to the employer to determine the possible need for appropriate training for workers to ensure protection of human health and the environment.

n.a.: not applicable

n.d.: not available

ADR: Accord européen relative au transport International des marchandises dangereuses par route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

ATE: Acute Toxicity Estimat

BFC: BioconCentration Factor

BOD: Biochemical Oxigen Demand

CAS: Chemical Abstract Service number

CAP: Centre AntiPoison

CE/EC number EINECS (European Inventory of existing Commercial Substances) e ELINCS (European List of notified Chemical Substances)

CL50/LC50: Lethal Concentration 50

DL50/LD50: Lethal Dose 50

COD: Chemical Oxygen Demand

DNEL: Derived No Effect Level

EC50: half maximal Effective Concentration

ERC: Enviroment Release Classes

EU/UE: European Union

IATA: International Air Transport Association

ICAO: International Civil Aviation Organization

IMDG: International Maritime Dangerous Goods code

Kow: Octanol water partition coefficient

NOEC: No Observed Effect Concentration

OEL: Occupational Exposure Limit

PBT: Persistent Bioaccumulative and Toxic

PC: Product Categories

PNEC: Predicted No Effect Concentration

PROC: Process Categories

RID: Règlement concernent le transport International ferroviaire des marchandises dangereuses (Regulations concerning International rail transport of dangerous goods)

STOT: Target Organ Systemic Toxicity

STOT (RE): Repeated Exposure

STOT (SE): Single Exposure

STP: Sewage Treatment Plants

SU: Sector of Use

SVCH: Substance of Very High Concern

TLV: Threshold Limit Value

vPvB: Very Persistent Very Bioaccumulative

References and Sources:

- ECHA Registered Substances:
- <https://echa.europa.eu/web/guest/information-on-chemicals/registered-substances>
- SDS supplier
- GESTIS DNEL Database: <http://www.dguv.de/ifa/gestis/gestis-dnel-datenbank/index-2.jsp>
- GESTIS International Limit Value: <http://limitvalue.ifa.dguv.de>

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*** this tab annuls and replaces any previous edition. (IIXX)

Changes to the previous edition: variation on basic physical and chemical properties.
