



Deosan HH+ AG514

Revision: 2022-07-24

Version: 02.0

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

1.1 Product identifier

Trade name: Deosan HH+ AG514

UFI: TQ23-91V1-C00X-92NU

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

Product use:	Hoof care maintenance. For professional use only.
Uses advised against:	Uses other than those identified are not recommended.

SWED - Sector-specific worker exposure description :

AISE_SWED_PW_8a_1
AISE_SWED_PW_8b_1
AISE_SWED_PW_19_1

1.3 Details of the supplier of the safety data sheet

Diversey Europe Operations BV, Maarssenbroeksedijk 2, 3542DN Utrecht, The Netherlands

Contact details

Diversey Ltd
Weston Favell Centre, Northampton NN3 8PD, United Kingdom
Tel: 01604 405311, Fax: 01604 406809
Regulatory Email: customerservice.uk@diversey.com

1.4 Emergency telephone number

Seek medical advice (show the label or safety data sheet where possible)
For medical or environmental emergency only:
call 0800 052 0185

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Skin Corr. 1B (H314)
Eye Dam. 1 (H318)
Aquatic Acute 1 (H400)
Aquatic Chronic 3 (H412)
Met. Corr. 1 (H290)

2.2 Label elements



Signal word: Danger.

Contains sulphuric acid (Sulfuric Acid), copper dinitrate (Copper Dinitrate), Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO) (Isodeceth 5-10)

Hazard statements:

H290 - May be corrosive to metals.
H314 - Causes severe skin burns and eye damage.
H410 - Very toxic to aquatic life with long lasting effects.

Precautionary statements:

P260 - Do not breathe vapours.

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P280 - Wear protective gloves, protective clothing and eye or face protection.

P303 + P361 + P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.

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 CENTRE, doctor or physician.

2.3 Other hazards

No other hazards known.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Ingredient(s)	EC number	CAS number	REACH number	Classification	Notes	Weight percent
sulphuric acid	231-639-5	7664-93-9	01-2119458838-20	Skin Corr. 1A (H314) Met. Corr. 1 (H290)		3-10
copper dinitrate	221-838-5	3251-23-8	01-2119429044-48	Ox. Sol. 2 (H272) Skin Corr. 1B (H314) Eye Dam. 1 (H318) Aquatic Acute 1 M=10 (H400) Aquatic Chronic 2 (H411)		3-10
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	[4]	78330-20-8	[4]	Acute Tox. 4 (H302) Eye Dam. 1 (H318)		3-10

Specific concentration limits

sulphuric acid:

- Eye Dam. 1 (H318) >= 15% > Eye Irrit. 2 (H319) >= 5%
- Skin Corr. 1A (H314) >= 15% > Skin Irrit. 2 (H315) >= 5%

Workplace exposure limit(s), if available, are listed in subsection 8.1.

ATE, if available, are listed in section 11.

[4] Exempted: polymer. See Article 2(9) of Regulation (EC) No 1907/2006.

For the full text of the H and EUH phrases mentioned in this Section, see Section 16..

SECTION 4: First aid measures

4.1 Description of first aid measures

General Information:

If unconscious place in recovery position and seek medical advice. Provide fresh air. If breathing is irregular or stopped, administer artificial respiration. No mouth-to-mouth or mouth-to-nose resuscitation. Use Ambu bag or ventilator.

Inhalation:

Remove person to fresh air and keep comfortable for breathing. Get medical attention or advice if you feel unwell.

Skin contact:

Wash skin with plenty of lukewarm, gently flowing water for at least 30 minutes. Wash skin with plenty of lukewarm, gently flowing water. Take off immediately all contaminated clothing and wash it before reuse. Immediately call a POISON CENTRE, doctor or physician. If skin irritation occurs: Get medical advice or attention.

Eye contact:

Hold eyelids apart and flush eyes with plenty of lukewarm water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTRE, doctor or physician.

Ingestion:

Rinse mouth. Immediately drink 1 glass of water. Never give anything by mouth to an unconscious person. Do NOT induce vomiting. Keep at rest. Immediately call a POISON CENTRE, doctor or physician.

Self-protection of first aider:

Consider personal protective equipment as indicated in subsection 8.2.

4.2 Most important symptoms and effects, both acute and delayed

Inhalation:

No known effects or symptoms in normal use.

Skin contact:

Causes severe burns.

Eye contact:

Causes severe or permanent damage.

Ingestion:

Ingestion will lead to a strong caustic effect on mouth and throat and to the danger of perforation of oesophagus and stomach.

4.3 Indication of any immediate medical attention and special treatment needed

No information available on clinical testing and medical monitoring. Specific toxicological information on substances, if available, can be found in section 11.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Carbon dioxide. Dry powder. Water spray jet. Fight larger fires with water spray jet or alcohol-resistant foam.

5.2 Special hazards arising from the substance or mixture

No special hazards known.

5.3 Advice for firefighters

As in any fire, wear self contained breathing apparatus and suitable protective clothing including gloves and eye/face protection.

SECTION 6: Accidental release measures**6.1 Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Do not breathe dust or vapour. Wear suitable protective clothing. Wear eye/face protection. Wear suitable gloves.

6.2 Environmental precautions

Dilute with plenty of water. Do not allow to enter drainage system, surface or ground water. Do not allow to enter the ground/soil. Inform responsible authorities in case undiluted product reaches drainage system, surface or ground water or the ground/soil.

6.3 Methods and material for containment and cleaning up

Ensure adequate ventilation. Dyke to collect large liquid spills. Use neutralising agent. Absorb with liquid-binding material (sand, diatomite, universal binders, sawdust). Do not place spilled materials back into the original container. Collect in closed and suitable containers for disposal.

6.4 Reference to other sections

For personal protective equipment see subsection 8.2. For disposal considerations see section 13.

SECTION 7: Handling and storage**7.1 Precautions for safe handling****Measures to prevent fire and explosions:**

No special precautions required.

Measures required to protect the environment:

For environmental exposure controls see subsection 8.2.

Advices on general occupational hygiene:

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not mix with other products unless advised by Diversey. Wash face, hands and any exposed skin thoroughly after handling. Take off immediately all contaminated clothing. Wash contaminated clothing before reuse. Avoid contact with skin and eyes. Do not breathe vapours. Use only with adequate ventilation. See chapter 8.2, Exposure controls / Personal protection.

7.2 Conditions for safe storage, including any incompatibilities

Store in accordance with local and national regulations. Store in a closed container. Keep only in original packaging. Keep away from heat and direct sunlight.

For conditions to avoid see subsection 10.4. For incompatible materials see subsection 10.5.

Comah - Lower Tier requirements (tonnes): 100

Comah - Upper Tier requirements (tonnes): 200

7.3 Specific end use(s)

No specific advice for end use available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters****Workplace exposure limits**

Air limit values, if available:

Ingredient(s)	UK - Long term value(s)	UK - Short term value(s)
sulphuric acid	0.05 mg/m ³ mist	0.15 mg/m ³ mist
copper dinitrate	1 mg/m ³ dust and mists	2 mg/m ³ dust and mist

Biological limit values, if available:

Recommended monitoring procedures, if available:

Additional exposure limits under the conditions of use, if available:

DNEL/DMEL and PNEC values**Human exposure**

DNEL/DMEL oral exposure - Consumer (mg/kg bw)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
sulphuric acid	-	-	-	-
copper dinitrate	No data available	No data available	No data available	No data available

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Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available	No data available	No data available	No data available
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DNEL/DMEL dermal exposure - Worker

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
sulphuric acid	No data available	-	No data available	-
copper dinitrate	No data available	No data available	No data available	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available	No data available	No data available	No data available

DNEL/DMEL dermal exposure - Consumer

Ingredient(s)	Short term - Local effects	Short term - Systemic effects (mg/kg bw)	Long term - Local effects	Long term - Systemic effects (mg/kg bw)
sulphuric acid	No data available	-	No data available	-
copper dinitrate	No data available	No data available	No data available	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available	No data available	No data available	No data available

DNEL/DMEL inhalatory exposure - Worker (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
sulphuric acid	0.1	-	0.05	-
copper dinitrate	No data available	No data available	No data available	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available	No data available	No data available	No data available

DNEL/DMEL inhalatory exposure - Consumer (mg/m³)

Ingredient(s)	Short term - Local effects	Short term - Systemic effects	Long term - Local effects	Long term - Systemic effects
sulphuric acid	-	-	-	-
copper dinitrate	No data available	No data available	No data available	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available	No data available	No data available	No data available

Environmental exposure

Environmental exposure - PNEC

Ingredient(s)	Surface water, fresh (mg/l)	Surface water, marine (mg/l)	Intermittent (mg/l)	Sewage treatment plant (mg/l)
sulphuric acid	0.0025	0.00025	-	8.8
copper dinitrate	No data available	No data available	No data available	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available	No data available	No data available	No data available

Environmental exposure - PNEC, continued

Ingredient(s)	Sediment, freshwater (mg/kg)	Sediment, marine (mg/kg)	Soil (mg/kg)	Air (mg/m ³)
sulphuric acid	0.002	0.002	-	-
copper dinitrate	No data available	No data available	No data available	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available	No data available	No data available	No data available

8.2 Exposure controls

The following information applies for the uses indicated in subsection 1.2 of the Safety Data Sheet.

If available, please refer to the product information sheet for application and handling instructions.

Normal use conditions are assumed for this section.

Recommended safety measures for handling the undiluted product:

Appropriate engineering controls: If the product is diluted by using specific dosing systems with no risk of splashes or direct skin contact, the personal protection equipment as described in this section is not required.

Appropriate organisational controls: Avoid direct contact and/or splashes where possible. Train personnel.

REACH use scenarios considered for the undiluted product:

	SWED - Sector-specific worker exposure description	LCS	PROC	Duration (min)	ERC
Manual transfer and dilution	AISE_SWED_PW_8a_1	PW	PROC 8a	60	ERC8a
Manual transfer and dilution	AISE_SWED_PW_8b_1	PW	PROC 8b	60	ERC8b

Personal protective equipment

Eye / face protection:

Safety glasses or goggles (EN 166). The use of a full-face shield or other full-face protection is strongly recommended when handling open containers or if splashes may occur.

Hand protection:

Chemical-resistant protective gloves (EN 374). Verify instructions regarding permeability and breakthrough time, as provided by the gloves supplier. Consider specific local use conditions, such

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as risk of splashes, cuts, contact time and temperature.

Suggested gloves for prolonged contact: Material: butyl rubber Penetration time: ≥ 480 min Material thickness: ≥ 0.7 mm

Suggested gloves for protection against splashes: Material: nitrile rubber Penetration time: ≥ 30 min Material thickness: ≥ 0.4 mm

In consultation with the supplier of protective gloves a different type providing similar protection may be chosen.

Body protection:

Wear chemical-resistant clothing and boots in case direct dermal exposure and/or splashes may occur (EN 14605).

Respiratory protection:

Respiratory protection is not normally required. However, inhalation of vapour, spray, gas or aerosols should be avoided.

Environmental exposure controls:

Should not reach sewage water or drainage ditch undiluted or unneutralised.

Recommended safety measures for handling the diluted product:

Recommended maximum concentration (% w/w): 3

Appropriate engineering controls:

No special requirements under normal use conditions.

Appropriate organisational controls:

No special requirements under normal use conditions.

REACH use scenarios considered for the diluted product:

	SWED	LCS	PROC	Duration (min)	ERC
Manual application	AISE_SWED_PW_19_1	PW	PROC 19	480	ERC8a

Personal protective equipment**Eye / face protection:**

No special requirements under normal use conditions.

Hand protection:

No special requirements under normal use conditions.

Body protection:

No special requirements under normal use conditions.

Respiratory protection:

No special requirements under normal use conditions.

Environmental exposure controls:

No special requirements under normal use conditions.

SECTION 9: Physical and chemical properties**9.1 Information on basic physical and chemical properties**

Information in this section refers to the product, unless it is specifically stated that substance data is listed

Method / remark

Physical state: Liquid

Colour: Clear , Medium , Blue

Odour: Product specific

Odour threshold: Not applicable

Melting point/freezing point (°C): Not determined

Not relevant to classification of this product

Initial boiling point and boiling range (°C): 100

Substance data, boiling point

Ingredient(s)	Value (°C)	Method	Atmospheric pressure (hPa)
sulphuric acid	310-335	Method not given	
copper dinitrate	No data available		
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available		

Method / remark

Flammability (solid, gas): Not applicable to liquids

Flammability (liquid): Not flammable.

Flash point (°C): > 100 °C

Weight of evidence

Sustained combustion: Not applicable.

(UN Manual of Tests and Criteria, section 32, L.2)

Lower and upper explosion limit/flammability limit (%): Not determined

Substance data, flammability or explosive limits, if available:

Method / remark

Autoignition temperature: Not determined

Decomposition temperature: Not applicable.

pH: ≤ 2 (neat)

Dilution pH: < 2 (3.2 %)

ISO 4316

ISO 4316

Kinematic viscosity: ≈ 30 mPa.s (20 °C)

Solubility in / Miscibility with water: Fully miscible

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Substance data, solubility in water

Ingredient(s)	Value (g/l)	Method	Temperature (°C)
sulphuric acid	No data available		
copper dinitrate	No data available		
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available		

Substance data, partition coefficient n-octanol/water (log Kow): see subsection 12.3

Vapour pressure: Not determined**Method / remark**

See substance data

Substance data, vapour pressure

Ingredient(s)	Value (Pa)	Method	Temperature (°C)
sulphuric acid	10	Method not given	20
copper dinitrate	No data available		
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available		

Relative density: ≈ 1.08 (20 °C)**Relative vapour density:** No data available.**Particle characteristics:** No data available.**Method / remark**

OECD 109 (EU A.3)

Not relevant to classification of this product

Not applicable to liquids.

9.2 Other information**9.2.1 Information with regard to physical hazard classes****Explosive properties:** Not explosive.**Oxidising properties:** Not oxidising.**Corrosion to metals:** Corrosive

Weight of evidence

Weight of evidence

9.2.2 Other safety characteristics

No other relevant information available.

SECTION 10: Stability and reactivity**10.1 Reactivity**

No reactivity hazards known under normal storage and use conditions.

10.2 Chemical stability

Stable under normal storage and use conditions.

10.3 Possibility of hazardous reactions

No hazardous reactions known under normal storage and use conditions.

10.4 Conditions to avoid

None known under normal storage and use conditions.

10.5 Incompatible materials

May be corrosive to metals. Reacts with alkali. Keep away from products containing chlorine-based bleaching agents or sulphites.

10.6 Hazardous decomposition products

None known under normal storage and use conditions.

SECTION 11: Toxicological information**11.1 Information on toxicological effects**

Mixture data:.

Relevant calculated ATE(s):

ATE - Oral (mg/kg): >2000

Substance data, where relevant and available, are listed below:.

Acute toxicity

Acute oral toxicity

Ingredient(s)	Endpoint	Value	Species	Method	Exposure	ATE
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		(mg/kg)			time (h)	(mg/kg)
sulphuric acid	LD ₅₀	2140	Rat	OECD 401 (EU B.1)		Not established
copper dinitrate		No data available				Not established
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	LD ₅₀	> 300-2000	Rat	OECD 401 (EU B.1)		10000

Acute dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg)	Species	Method	Exposure time (h)	ATE (mg/kg)
sulphuric acid		No data available				Not established
copper dinitrate		No data available				Not established
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	LD ₅₀	> 2000	Rat	OECD 402 (EU B.3)		Not established

Acute inhalative toxicity

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sulphuric acid	LC ₅₀	0.375 (mist)	Rat	OECD 403 (EU B.2)	
copper dinitrate		No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)		No data available			

Acute inhalative toxicity, continued

Ingredient(s)	ATE - inhalation, dust (mg/l)	ATE - inhalation, mist (mg/l)	ATE - inhalation, vapour (mg/l)	ATE - inhalation, gas (mg/l)
sulphuric acid	Not established	Not established	Not established	Not established
copper dinitrate	Not established	Not established	Not established	Not established
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	Not established	Not established	Not established	Not established

Irritation and corrosivity

Skin irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sulphuric acid	Corrosive	Rabbit	Method not given	
copper dinitrate	No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	Not irritant	Rabbit	OECD 404 (EU B.4)	

Eye irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sulphuric acid	Corrosive	Rabbit	Method not given	
copper dinitrate	No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	Severe damage	Rabbit	OECD 405 (EU B.5)	

Respiratory tract irritation and corrosivity

Ingredient(s)	Result	Species	Method	Exposure time
sulphuric acid	No data available			
copper dinitrate	No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available			

Sensitisation

Sensitisation by skin contact

Ingredient(s)	Result	Species	Method	Exposure time (h)
sulphuric acid	Not sensitising			
copper dinitrate	No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	Not sensitising	Guinea pig	OECD 406 (EU B.6) / GPMT	

Sensitisation by inhalation

Ingredient(s)	Result	Species	Method	Exposure time
sulphuric acid	No data available			
copper dinitrate	No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available			

CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)

Mutagenicity

Ingredient(s)	Result (in-vitro)	Method (in-vitro)	Result (in-vivo)	Method (in-vivo)
sulphuric acid	No data available		No data available	

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copper dinitrate	No data available		No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available		No data available

Carcinogenicity

Ingredient(s)	Effect
sulphuric acid	No evidence for carcinogenicity, negative test results
copper dinitrate	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available

Toxicity for reproduction

Ingredient(s)	Endpoint	Specific effect	Value (mg/kg bw/d)	Species	Method	Exposure time	Remarks and other effects reported
sulphuric acid			No data available				
copper dinitrate			No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)			No data available				

Repeated dose toxicity

Sub-acute or sub-chronic oral toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sulphuric acid	NOAEL	150	Rat	Method not given	60	
copper dinitrate		No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)		No data available				

Sub-chronic dermal toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sulphuric acid		No data available				
copper dinitrate		No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)		No data available				

Sub-chronic inhalation toxicity

Ingredient(s)	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time (days)	Specific effects and organs affected
sulphuric acid	TCL ₀	3	Human	Method not given		
copper dinitrate		No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)		No data available				

Chronic toxicity

Ingredient(s)	Exposure route	Endpoint	Value (mg/kg bw/d)	Species	Method	Exposure time	Specific effects and organs affected	Remark
sulphuric acid			No data available					
copper dinitrate			No data available					
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)			No data available					

STOT-single exposure

Ingredient(s)	Affected organ(s)
sulphuric acid	No data available
copper dinitrate	No data available
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available

STOT-repeated exposure

Ingredient(s)	Affected organ(s)
sulphuric acid	No data available
copper dinitrate	No data available

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Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available

Aspiration hazard

Substances with an aspiration hazard (H304), if any, are listed in section 3.

Potential adverse health effects and symptoms

Effects and symptoms related to the product, if any, are listed in subsection 4.2.

11.2 Information on other hazards**11.2.1 Endocrine disrupting properties**

Endocrine disrupting properties - Human data, if available:

11.2.2 Other information

No other relevant information available.

SECTION 12: Ecological information**12.1 Toxicity**

No data is available on the mixture.

Substance data, where relevant and available, are listed below:

Aquatic short-term toxicity

Aquatic short-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sulphuric acid	LC ₅₀	16 - 28	<i>Lepomis macrochirus</i>	Method not given	96
copper dinitrate		No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	LC ₅₀	> 10-100	<i>Leuciscus idus</i>	DIN 38412, Part 15	96

Aquatic short-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sulphuric acid	EC ₅₀	29	<i>Daphnia magna Straus</i>	Method not given	24
copper dinitrate		No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	EC ₅₀	> 10-100	<i>Daphnia magna Straus</i>	DIN 38412, Part 11	48

Aquatic short-term toxicity - algae

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (h)
sulphuric acid	EC ₅₀	> 100	<i>Desmodesmus subspicatus</i>	Method not given	72
copper dinitrate		No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	EC ₅₀	> 10-100	<i>Desmodesmus subspicatus</i>	DIN 38412, Part 9 Limit test	96

Aquatic short-term toxicity - marine species

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time (days)
sulphuric acid		No data available			
copper dinitrate		No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)		No data available			

Impact on sewage plants - toxicity to bacteria

Ingredient(s)	Endpoint	Value (mg/l)	Inoculum	Method	Exposure time
sulphuric acid	EC ₅₀	58	<i>Activated sludge</i>	Method not given	120 hour(s)
copper dinitrate		No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	EC ₁₀	48	<i>Activated sludge</i>	DIN 38412 / Part 8	17 hour(s)

Aquatic long-term toxicity

Aquatic long-term toxicity - fish

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sulphuric acid	NOEC	0.31	<i>Salvelinus fontinalis</i>	Method not given		
copper dinitrate		No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)		No data available				

Aquatic long-term toxicity - crustacea

Ingredient(s)	Endpoint	Value (mg/l)	Species	Method	Exposure time	Effects observed
sulphuric acid	NOEC	0.15	<i>Daphnia magna</i>	Method not given		
copper dinitrate		No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	NOEC	> 1	<i>Daphnia magna</i>	OECD 202	21 day(s)	

Aquatic toxicity to other aquatic benthic organisms, including sediment-dwelling organisms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw sediment)	Species	Method	Exposure time (days)	Effects observed
sulphuric acid		No data available				
copper dinitrate		No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)		No data available				

Terrestrial toxicity

Terrestrial toxicity - soil invertebrates, including earthworms, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sulphuric acid		No data available				

Terrestrial toxicity - plants, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sulphuric acid		No data available				

Terrestrial toxicity - birds, if available:

Ingredient(s)	Endpoint	Value	Species	Method	Exposure time (days)	Effects observed
sulphuric acid		No data available				

Terrestrial toxicity - beneficial insects, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sulphuric acid		No data available				

Terrestrial toxicity - soil bacteria, if available:

Ingredient(s)	Endpoint	Value (mg/kg dw soil)	Species	Method	Exposure time (days)	Effects observed
sulphuric acid		No data available				

12.2 Persistence and degradability**Abiotic degradation**

Abiotic degradation - photodegradation in air, if available:

Ingredient(s)	Half-life time	Method	Evaluation	Remark
sulphuric acid	No data available			

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Abiotic degradation - hydrolysis, if available:

Ingredient(s)	Half-life time in fresh water	Method	Evaluation	Remark
sulphuric acid	No data available			

Abiotic degradation - other processes, if available:

Ingredient(s)	Type	Half-life time	Method	Evaluation	Remark
sulphuric acid		No data available			

Biodegradation

Ready biodegradability - aerobic conditions

Ingredient(s)	Inoculum	Analytical method	DT ₅₀	Method	Evaluation
sulphuric acid					Not applicable (inorganic substance)
copper dinitrate					Not applicable (inorganic substance)
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	Activated sludge, aerobe	CO ₂ production	> 60% in 28 day(s)	OECD 301B	Readily biodegradable

Ready biodegradability - anaerobic and marine conditions, if available:

Ingredient(s)	Medium & Type	Analytical method	DT ₅₀	Method	Evaluation
sulphuric acid					No data available

Degradation in relevant environmental compartments, if available:

Ingredient(s)	Medium & Type	Analytical method	DT ₅₀	Method	Evaluation
sulphuric acid					No data available

12.3 Bioaccumulative potential

Partition coefficient n-octanol/water (log Kow)

Ingredient(s)	Value	Method	Evaluation	Remark
sulphuric acid	No data available		No bioaccumulation expected	
copper dinitrate	No data available			
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available			

Bioconcentration factor (BCF)

Ingredient(s)	Value	Species	Method	Evaluation	Remark
sulphuric acid	No data available				
copper dinitrate	No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available				

12.4 Mobility in soil

Adsorption/Desorption to soil or sediment

Ingredient(s)	Adsorption coefficient Log K _{oc}	Desorption coefficient Log K _{oc} (des)	Method	Soil/sediment type	Evaluation
sulphuric acid	No data available				Low potential for adsorption to soil
copper dinitrate	No data available				
Alcohols, C9-11-iso-, C10-rich, ethoxylated (>5-10EO)	No data available				

12.5 Results of PBT and vPvB assessment

Substances that fulfill the criteria for PBT/vPvB, if any, are listed in section 3.

12.6 Endocrine disrupting properties

Endocrine disrupting properties - Environmental effects, if available:

12.7 Other adverse effects

No other adverse effects known.

SECTION 13: Disposal considerations**13.1 Waste treatment methods****Waste from residues / unused products:**

The concentrated contents or contaminated packaging should be disposed of by a certified handler or according to the site permit. Release of waste to sewers is discouraged. The cleaned packaging

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European Waste Catalogue:	material is suitable for energy recovery or recycling in line with local legislation. 20 01 14* - acids.
Empty packaging Recommendation:	Dispose of observing national or local regulations.
Suitable cleaning agents:	Water, if necessary with cleaning agent.

SECTION 14: Transport information



Land transport (ADR/RID), Sea transport (IMDG), Air transport (ICAO-TI / IATA-DGR)

14.1 UN number: 3264

14.2 UN proper shipping name:

Corrosive liquid, acidic, inorganic, n.o.s. (copper dinitrate , sulphuric acid)

14.3 Transport hazard class(es):

Transport hazard class (and subsidiary risks): 8

14.4 Packing group: II

14.5 Environmental hazards:

Environmentally hazardous: Yes

Marine pollutant: Yes

14.6 Special precautions for user: None known.

14.7 Transport in bulk according to Annex II of MARPOL and the IBC Code: The product is not transported in bulk tankers.

Other relevant information:

ADR

Classification code: C1

Tunnel restriction code: E

Hazard identification number: 80

IMO/IMDG

EmS: F-A, S-B

The product has been classified, labelled and packaged in accordance with the requirements of ADR and the provisions of the IMDG Code. Transport regulations include special provisions for certain classes of dangerous goods packed in limited quantities.

SECTION 15: Regulatory information

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

National regulations :

- Regulation (EC) 1907/2006 - REACH (UK amended)
- Regulation (EC) 1272/2008 - CLP (UK amended)
- Delegated Regulation (EU) 2017/2100 and Regulation (EU) 2018/605 (UK amended)
- Agreement concerning the International Carriage of Dangerous Goods by Road (ADR)
- International Maritime Dangerous Goods (IMDG) Code

Authorisations or restrictions (Regulation (EC) No 1907/2006, Title VII respectively Title VIII): Not applicable.

Comah - classification: E1 - Hazardous to the Aquatic Environment in Category Acute 1 or Chronic 1

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out on the mixture

SECTION 16: Other information

The information in this document is based on our best present knowledge. However, it does not constitute a guarantee for any specific product features and does not establish a legally binding contract

SDS code: MS1004595

Version: 02.0

Revision: 2022-07-24

Reason for revision:

Deosan HH+ AG514

Overall design adjusted in accordance with Amendment 2020/878, Annex II of Regulation (EC) No 1907/2006, This data sheet contains changes from the previous version in section(s):, 2, 4, 8, 9, 16

Classification procedure

The classification of the mixture is in general based on calculation methods using substance data, as required by Regulation (EC) No 1272/2008. If for certain classifications data on the mixture is available or for example bridging principles or weight of evidence can be used for classification, this will be indicated in the relevant sections of the Safety Data Sheet. See section 9 for physical chemical properties, section 11 for toxicological information and section 12 for ecological information.

Full text of the H and EUH phrases mentioned in section 3:

- H272 - May intensify fire; oxidiser.
- H290 - May be corrosive to metals.
- H302 - Harmful if swallowed.
- H314 - Causes severe skin burns and eye damage.
- H318 - Causes serious eye damage.
- H400 - Very toxic to aquatic life.
- H411 - Toxic to aquatic life with long lasting effects.

Abbreviations and acronyms:

- AISE - The international Association for Soaps, Detergents and Maintenance Products
- ATE - Acute Toxicity Estimate
- DNEL - Derived No Effect Limit
- EC50 - effective concentration, 50%
- ERC - Environmental release categories
- EUH - CLP Specific hazard statement
- LC50 - Lethal Concentration, 50% / Median Lethal Concentration
- LCS - Life cycle stage
- LD50 - Lethal Dose, 50% / Median Lethal dose
- NOAEL - No observed adverse effect level
- NOEL - No observed effect level
- OECD - Organisation for Economic Cooperation and Development
- PBT - Persistent, Bioaccumulative and Toxic
- PNEC - Predicted No Effect Concentration
- PROC - Process categories
- REACH number - REACH registration number, without supplier specific part
- vPvB - very Persistent and very Bioaccumulative

End of Safety Data Sheet