

* **Cleaner**

Date revised: 04.05.2023

1000728

Version: 12 / EN

Master No. M-035

Print date: 04.05.2023

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

1.1. Product identifier

Trade name

Cleaner

REACH-Registration no. 01-2119485924-24-XXXX

Use of the substance/mixture

Intermediate, Laboratory chemicals, Descaling compound/ Scale solvent, Corrosion inhibitors, pHcorrective agent, Processing aid, Degreasing agent, Metal surface treatment, Industrial use

UFI

UFI: RW3C-A0F8-900C-1K98

1.3. Details of the supplier of the safety data sheet

Address

Reuter GmbH & Co.KG

Schimmelbuschstraße 9e

40699 Erkrath

Telephone no.

+49 211 730 604 - 30

E-mail address

mail@reuter.works

1.4. Emergency telephone number

+49 171 54 50 200

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No. 1272/2008)

Met. Corr. 1 H290

Skin Irrit. 2 H315

Eye Irrit. 2 H319

2.2. Label elements

Labelling according to regulation (EC) No 1272/2008 Hazard pictograms



Signal word

Attention

Hazard statements

H290 May be corrosive to metals.

H315 Causes skin irritation.

H319 Causes serious eye irritation.

Precautionary statements

P280 Wear protective gloves/protective clothing/eye protection/face protection.

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

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

P302+P352 IF ON SKIN: Wash with plenty of water.

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes.

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Further supplemental information

Restricted to professional users

2.3. Other hazards PBT and vPvB

You find the results of PBT and vPvB assessment in section 12.

SECTION 3: Composition/information on ingredients *****3.2. Mixtures****Hazardous ingredients (Regulation (EC) No. 1272/2008) *** Phosphoric acid**

CAS No. 7664-38-2

EINECS no. 231-633-2

REACH-Registration 01-2119485924-24-XXXX no.

Concentration ≥ 10 -< 15 %

Met. Corr. 1 H290

Skin Irrit. 2 H315

Eye Irrit. 2 H319

Concentration limits (Regulation (EC) No. 1272/2008)

Met. Corr. 1 H290 ≥= 25

Eye Irrit. 2 H319 ≥= 10 < 25

Skin Irrit. 2 H315 ≥= 10 < 25

Complete text of H-phrases in Chapter 16.

SECTION 4: First aid measures**4.1. Description of first aid measures****General information**

Remove affected person from danger area, lay him down. Remove contaminated, soaked clothing immediately and dispose of safely. Irregular breathing/no breathing: artificial respiration. If the patient is likely to become unconscious, place and transport in stable sideways position.

After inhalation

Remove the casualty into fresh air and keep him calm. Summon a doctor immediately.

After skin contact

Wash immediately with plenty of water for several minutes. Summon a doctor immediately.

After eye contact

In case of contact with the eyes, rinse immediately for at least 15 minutes with plenty of water. Summon a doctor immediately. **After ingestion**

Rinse out mouth and give plenty of water to drink. Do not induce vomiting. Summon a doctor immediately.

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

Causes burns.

Risk of pneumonia; Risk of stomach perforation

4.3. Indication of any immediate medical attention and special treatment needed Keep under medical supervision for at least 48 hours.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

Carbon dioxide, Water spray jet, Dry powder, Foam, Product itself is non-combustible; adapt fire extinguishing measures to surrounding areas.

Non suitable extinguishing media Full water jet

5.2. Special hazards arising from the substance or mixture

Reactions with metals, with evolution of hydrogen. In the event of fire the following can be released: Phosphorus oxides (e.g. P₂O₅); Phosphorus trihydride (phosphine)

5.3. Advice for firefighters

Use self-contained breathing apparatus. Wear full protective suit.

Cool endangered containers with water spray jet. Collect contaminated fire-fighting water separately, must not be discharged into the drains.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective clothing. Ensure adequate ventilation. Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with skin, eyes and clothing. High risk of slipping due to leakage/spillage of product.

6.2. Environmental precautions

Do not allow to enter drains or waterways. Do not discharge into the subsoil/soil. Prevent spread over a wide area (e.g. by containment or oil barriers).

6.3. Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). Neutralization agent use. When picked up, treat material as prescribed under Section 13 "Disposal".

6.4. Reference to other sections

Information regarding personal protective measures, see Section 8. Information regarding waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Keep container tightly closed. Handle and open container with care. Avoid formation of aerosols. Provide good ventilation of working area (local exhaust ventilation if necessary). When diluting, always stir product into water.

Take off immediately all contaminated clothing. Avoid contact with skin and eyes. Keep separated from food-stuffs and feed-stocks. At work do not eat, drink, smoke or take drugs. Wash hands before breaks and after work. Do not inhale gases/vapours/aerosols.

Advice on protection against fire and explosion No special measures required.

7.2. Conditions for safe storage, including any incompatibilities

Provide acid-resistant floor. Keep only in the original container. Do not store together with: Alkalis, Reducing agents, Metals
storage category TRGS 510

8 B

Not combustible corrosive hazardous substances

Keep container tightly closed and in a well-ventilated place. Protect from heat/overheating.

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7.3. Specific end use(s)

No information available.

SECTION 8: Exposure controls/personal protection**8.1. Control parameters****Exposure limit values Phosphoric acid**

List	TRGS 900
Type	AGW
Long term exposure limit	2 mg/m ³
Maximum limit value: 2(l)	
Pregnancy group: Y	
Status: 4.4.2013	
Remarks: DFG, AGS	

Derived No/Minimal Effect Levels (DNEL/DMEL) Phosphoric acid**DNEL**

Conditions	Worker Long term	inhalative	Local effects Concentration	2,92
	mg/m ³			

DNEL

Conditions	General Population	Long term	inhalative	Local effects
Concentration	0,73		mg/m ³	

8.2. Exposure controls**Respiratory protection in accordance with DIN EN 136 / DIN EN 140 / DIN EN 143 / DIN EN 149**

Breathing apparatus in the event of aerosol or mist formation. In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use self-contained respiratory protective device. Short term: filter apparatus, combination filter E-P2; Short term: filter apparatus, combination filter B-P2

Hand protection in accordance with DIN EN 374

Appropriate Material	Chloroprene
Material thickness	>= 0,6 mm
Breakthrough time	>= 480 min

Eye protection in accordance with DIN EN 166

Tightly fitting safety glasses

Body protection in accordance with DIN EN 465

Acid-resistant protective clothing

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

Form	liquid
Colour	colourless
Odour	odourless
Odour threshold	
Remarks	No data available
pH value	
Value	< 1
Concentration/H ₂ O	23 g/l
Temperature	20 °C

Melting point/freezing point

Value	appr. -18 °C
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Initial boiling point and boiling range

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Value	appr. 135	°C
Flash point		
Remarks	Not applicable	
Evaporation rate		
Remarks	No data available	
Flammability (solid, gas)		
Not ignitable		
Upper/lower flammability or explosive limits		
Remarks	Not applicable	
Vapour pressure		
Value	0,04	hPa
Temperature	20	°C
Vapour density		
Value	3,4	
Relative density		
Value	1,58	g/cm ³
Temperature	20	°C
Solubility(ies)		
Medium	Water	
Remarks	Completely miscible	
Partition coefficient: n-octanol/water		
Not applicable		
Auto-ignition temperature		
Remarks	Not applicable	
Decomposition temperature		
Remarks	No data available	
Viscosity		
Remarks	No data available	
Explosive properties		
Remarks	This product is not potentially explosive.	
Oxidising properties		
evaluation	not oxidizing	

9.2. Other information

No additional information available.

SECTION 10: Stability and reactivity

10.1. Reactivity see Possibility of hazardous reactions

10.2. Chemical stability

No decomposition if used as prescribed.

10.3. Possibility of hazardous reactions

Corrosive to metals. Reactions with reducing agents. Reactions with alkalies. Reactions with metals, with evolution of hydrogen.

10.4. Conditions to avoid

To avoid thermal decomposition do not overheat.

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10.5. Incompatible materials

Reducing agents, metals, Alkalis, Ammonia

10.6. Hazardous decomposition productsPhosphorus oxides (e.g. P₂O₅), Hydrogen**SECTION 11: Toxicological information****11.1. Information on toxicological effects****Acute oral toxicity (Components) Phosphoric acid**

Species	rat		
LD50	>=	300	mg/kg
Method	WoE approach		

Acute dermal toxicity (Components) Phosphoric acid

Species	rabbit		
LD50		2740	mg/kg

Acute inhalative toxicity (Components) Phosphoric acid

No information available.

Skin corrosion/irritation

evaluation	corrosive
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Corrosive action on the skin and mucous membrane.

Serious eye damage/irritation

evaluation	strongly corrosive
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Sensitization (Components)

Phosphoric acid not investigated -
substance is corrosive

Mutagenicity (Components) Phosphoric acid

Based on available data, the classification criteria are not met.

Carcinogenicity (Components) Phosphoric acid

Based on available data, the classification criteria are not met.

Reproduction toxicity (Components) Phosphoric acid

Based on available data, the classification criteria are not met.

Specific Target Organ Toxicity (STOT) Single exposure

May cause respiratory irritation.

Repeated exposure

No data available

Aspiration hazardNo information available. **Other****information**

Strong caustic effect in the mouth and throat and danger of perforation of the esophagus and stomach.

SECTION 12: Ecological information**12.1. Toxicity****Fish toxicity (Components)****Phosphoric acid**

Species	Gambusia affinis
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LC50	138		mg/l
Duration of exposure	96	h	

Daphnia toxicity (Components)**Phosphoric acid**

Species	Daphnia magna		
EC50	> 100		mg/l
Duration of exposure	48	h	
Method	OECD 202		
Remarks	Static system		
Species	Daphnia magna		
NOEC	56		mg/l
Duration of exposure	48	h	
Method	OECD 202		

Algae toxicity (Components)**Phosphoric acid**

Species	Desmodesmus subspicatus		
EC50	> 100		mg/l
Duration of exposure	72	h	
Method	OECD 201		
Remarks	Static system		
Species	Desmodesmus subspicatus		
NOEC	100		mg/l
Duration of exposure	72	h	
Method	OECD 201		

Bacteria toxicity (Components)**Phosphoric acid**

Species	activated sludge		
EC50	270		mg/l

12.2. Persistence and degradability**Biodegradability (Components) Phosphoric acid**

Inorganic product, cannot be eliminated from the water by biological purification processes.

12.3. Bioaccumulative potential

Partition coefficient: n-octanol/water Not applicable

12.4. Mobility in soil

Will not adsorb on soil.

12.5. Results of PBT and vPvB assessment

No valuation for anorganic substances necessary.

12.6. Endocrine disrupting properties**Endocrine disrupting properties with respect to the environment**

The product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms.

12.7. Other adverse effects**Behaviour in environment compartments**

Harmful effect due to pH shift. Can contribute to eutrophication of waters.

Behaviour in sewers [waste treatment plants]

The product is an acid. Neutralization is normally necessary before a waste water is discharged into sewage treatment plants.

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SECTION 13: Disposal considerations

13.1. Waste treatment methods

Disposal recommendations for the product

Allocation of a waste code number, according to the European Waste Catalogue (EWC), should be carried out in agreement with the regional waste disposal company.

Disposal recommendations for packaging

Packaging that cannot be cleaned should be disposed off in agreement with the regional waste disposal company.

SECTION 14: Transport information

Land transport ADR/RID

14.1. UN number	1805
14.2. UN proper shipping SOLUTION name	PHOSPHORIC ACID,
14.3. Transport hazard	8 class(es)
Label	8
14.4. Packing group	III
14.5. Environmental hazards	- Tunnel restriction code E
14.6. Special precautions for user	No information available.
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available.

Marine transport IMDG/GGVSee

14.1. UN number	1805
14.2. UN proper shipping name	PHOSPHORIC ACID, SOLUTION
14.3. Transport hazard class(es)	8
14.4. Packing group	III
14.5. Environmental hazards EmS	- F-A, S-B
14.6. Special precautions for user	No information available.
14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code	No information available.

Air transport ICAO/IATA

14.1. UN number	1805
14.2. UN proper shipping name	PHOSPHORIC ACID, SOLUTION
14.3. Transport hazard class(es)	8
14.4. Packing group	III
14.5. Environmental hazards	-
14.6. Special precautions for user	No information available.

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14.7. Transport in bulk No information available.
according to Annex II of
MARPOL and the IBC Code

SECTION 15: Regulatory information

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

Water Hazard Class (Germany)

Water Hazard Class WGK 1

(Germany)

Classification according to Betriebssicherheitsverordnung (BetrSichV) not applicable

VOC-Content according to directive 2010/75/EU VOC (EU)

0 %

SVHC

The product does not contain substances of very high concern (SVHC).

Registration status Phosphoric acid

AICS (Australian Inventory of Chemical Substances)	listed
DSL (Canada)	listed
IECSC (China)	listed
EINECS	listed
ENCS (Japan)	listed
ECL (Korea)	listed
PICCS (Philippines)	listed
POPs	not listed
TSCA (USA)	listed

15.2. Chemical safety assessment

For this substance a chemical safety assessment has been carried out.

SECTION 16: Other information

Hazard statements listed in Chapter 3

H290	May be corrosive to metals.
H315	Causes skin irritation.
H319	Causes serious eye irritation.

CLP categories listed in Chapter 3

Acute Tox. 4	Acute toxicity, Category 4
Met. Corr. 1	Substance or mixture corrosive to metals, Category 1 Skin
Corr. 1B	Skin corrosion, Category 1B

Abbreviations

AC: Article Category
 ACGIH: American Conference of Governmental Industrial Hygienists
 ADN: Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ADNR: Accord européen relatif au transport international des marchandises dangereuses par navigation sur le Rhin
 ADR: Accord européen relatif au transport international des marchandises Dangereuses par Route
 AGW: Arbeitsplatzgrenzwert
 AICS: Australian Inventory of Chemical Substances
 AOX: adsorbable organically bound halogens
 ARW: Arbeitsplatzrichtwert (Germany)
 ASTM: American Society for Testing And Materials
 ATE: acute toxicity estimates

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ATP: Adaptation to technical and scientific progress
AWsV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen (Germany)
BAR: Biologischer Arbeitsstoff-Referenzwert
BCF: bioconcentration factor
BetrSichV: Betriebssicherheitsverordnung (Germany)
BG: Berufsgenossenschaft (Germany)
BGW: Biologischer Grenzwert
BLW: Biologischer Leitwert
BOD: biochemical oxygen demand CAS:
Chemical Abstracts Service
cATpE: converted acute toxicity point estimate CEA:
Comité Européen des Assurances
CEFIC: European Chemical Industry Council
CESIO: Comité Européen des Agents de Surface et leurs Intermédiaires Organiques
ChemG: Chemikaliengesetz (Germany)
CMR: Cancerogen Mutagen Reprotoxic
COD: chemical oxygen demand
DFG: Deutsche Forschungsgemeinschaft
DIN: german industry standard
DMEL: Derived minimal effect level
DNEL: Derived no effect level
DOC: dissolved organic carbon
DSL: Canada Domestic Substances List
EAK: Europäischer Abfallkatalog
EbC: inhibitory concentration of growth
EC: effective concentration EC:
European Community
ECETOC: European Centre For Ecotoxicology and toxicology of Chemicals
ECHA: European Chemicals Agency
EEC: European Economic Community
EG: Europäische Gemeinschaft
EH40: List of approved workplace exposure limits
EINECS: European Inventory of Existing Commercial Chemical Substances
EKA: Expositionsäquivalente für krebserzeugende Arbeitsstoffe
EL: effect level
ELINCS: European List of Notified Chemical Substances
EmS: Emergency Schedules
EN: european standards
ENCS: Japanese Existing and New Chemical Substances Inventory
ERC: Environmental Release Category
ErC: inhibitory concentration of the growth rate
EU: European Union
EWG: Europäische Wirtschaftsgemeinschaft
FDA: Food and Drug Administration
FMVSS: National Highway Traffic Safety Administration
GefStoffV: Gefahrstoffverordnung
GGVSee: Gefahrgutverordnung See
GHS: Globally Harmonized System of classification and Labelling of Chemicals
IARC: International Agency for Research on Cancer
IATA: International Civil Aviation Organization
IBC: Intermediate Bulk Container
IC: inhibitory concentration
ICAO: International Air Transport Association
IECSC: Chinese Chemical Inventory of Existing Chemical Substances
IMDG: International Maritime Code for Dangerous Goods
IMO: International Maritime Organization

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INCI: International Nomenclature of Cosmetic Ingredients
 IRPTC: International Register of Potentially Toxic Chemicals ISO:
 International Organization for Standardization
 IUCLID: International Uniform Chemical Information Database
 Cat: category
 KBwS: Kommission zur Bewertung wassergefährdender Stoffe (Germany)
 KECI: Korea Existing Chemicals Inventory
 LC: Lethal concentration
 LD: Lethal dose
 LDLo: lethal dose low
 LGK: storage category
 LL: Lethal level
 LLC: Lowest lethal concentration
 LOAEC: Lowest Observable Adverse Effect Concentration
 LOAEL: Lowest observed adverse effect level LOEC:
 Lowest observed effect concentration
 LOEL: Lowest observed effect level
 Log pow: logarithm of the distribution coefficient n-octanol / water
 LQ: limited quantity
 MAC: Maximale aanvaarde concentratie (Netherlands)
 MAK: Maximale Arbeitsplatz-Konzentration
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified
 by the Protocol of 1978 (MARPOL: Marine Pollution)
 MEL: Maximum exposure limits
 MITI: Ministry of International Trade and Industry (Japan) n.a.g.:
 nicht anders genannt
 NATEC: Naval Air Technical Data and Engineering Service Command
 LOAEC: Lowest Observable Adverse Effect Concentration
 NLP: No-longer Polymer
 NOAEC: No observed adverse effect concentration
 NOAEL: no observable adverse effect level
 NOEC: No observable effect concentration
 NOEL: No observable effect level
 NOELR: no observable effect loading rate
 NZIOC: New Zealand Inventory of Chemicals
 OECD: Organisation for Economic Co-operation and Development
 OEL: Occupational exposure limit
 OELV: Occupational exposure limit value
 OES: Occupational exposure standards
 PBT: Persistent, Bioaccumulative and Toxic PC:
 Product Category
 PEC: Predicted environmental concentration
 PICCS: Philippine Inventory of Chemicals and Chemical Substances
 PNEC: predicted no effect concentration
 PNEC: Predicted no effect concentration
 POPs – Persistent organic pollutants
 pOW: Octanol-water partition coefficient
 PROC: Process Category
 REACH: Registration, Evaluation, Autohorisation and Restriction of Chemicals
 RID: Règlement concernant le transport international ferroviaire de marchandises dangereuses
 RTECS: Registry of Toxic Effects of Chemical Substances
 SAE: Society of Automotive Engineers
 STP: Sewage treatment plant
 SU: Sector of Use
 SUVA: Schweizerische Unfallversicherungsanstalt
 SVHC: Substances of very high concern

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TA Luft: Technische Anleitung zur Reinhaltung der Luft
TCCL: Toxic Chemical Control Law
ThOD: theoretical oxygen demand
TRA: targeted risk assessment
TRG: Technische Regeln Druckgase (Germany)
TRGA: Technische Regeln für gefährliche Arbeitsstoffe(Germany)
TRGS: Technische Regeln für Gefahrstoffe
TRK: Technische Richtkonzentration
TSCA: Toxic Substances Control Act (USA)
UN: United Nations
VbF: Verordnung über brennbare Flüssigkeiten VCI:
Verband der Chemischen Industrie e.V.
VDE: Verband der Elektrotechnik, Elektronik und Informtaionstechnik e.V.
VDI: Verein Deutscher Ingenieure
VLEP: Valeurs Limites d'exposition Professionnelle
VOC: Volatile Organic Compound
vPvB: Very persistent and very bioaccumulative VwVwS:
Verwaltungsvorschrift wassergefährdende Stoffe
WEL: Workplace exposure limit
WGK: water hazard class (Germany)
WHO: World Health Organization
WoE: Weight of Evidence

Supplemental information

Relevant changes compared with the previous version of the safety data sheet are marked with: ***
This information is based on our present state of knowledge. However, it should not constitute a guarantee for any specific product properties and shall not establish a legally valid relationship.