

Safety data sheet

according to Regulation (EC) No.1907/2006 (REACH)

Trade name: TW Master cleaning compound A

Revision:	-	Date of compilation:	10.07.2024
Version:	1 en	Replaces version of:	-

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

1.1 Product identifier

Trade name:	TW Master cleaning compound A
Registration number (REACH):	This substance is exempted under Article 2(7) and Annex V of REACH.
UFI number:	CP20-V05G-V007-AUCV

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

Relevant identified uses:	Compound A for the preparation of the cleaning solution for the TriOS TW Master cleaning system.
Uses advised against:	Do not use for private purposes (household).

1.3 Details of the supplier of the safety data sheet

Supplier:	TriOS Mess- und Datentechnik GmbH
Address:	Bürgermeister-Brötje-Straße 25, 26180 Rastede, Germany
Telephone:	+49 (0) 4402 69670-0
Fax:	+49 (0) 4402 69670-20
E-Mail:	safety@trios.de
Website:	www.trios.de

Competent person responsible for the safety data sheet:

E-Mail:	safety@trios.de
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1.4 Emergency telephone number

Telephone number:	Giftinformationszentrum Nord (Germany) +49 551-19240
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Section 2: Hazards identification

2.1 Classification of the substance or mixture

This mixture is classified according to Regulation (EC) No 1272/2008 as follows:

Acute Tox 4, H302: Acute toxicity, Category 4

Skin Irrit. 2, H315: Skin corrosion/irritation, Category 2

Eye Dam. 1, H318: Serious eye damage/eye irritation, Category 1

Skin Sens. 1, H317: skin sensitisation, Category 1

STOT SE 3, H335: Specific target organ toxicity - single exposure, Category 3

Aquatic Chronic 3, H412: Hazardous to the aquatic environment – chronic hazard, Category 3

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2.2 Label elements

Hazard pictograms:

GHS07
GHS05



Signal word:

Danger

Hazard statements:

H302: Harmful if swallowed.
H315: Causes skin irritation.
H317: May cause an allergic skin reaction.
H318: Causes serious eye damage.
H335: May cause respiratory irritation.
H412: Harmful to aquatic life with long lasting effects.

Safety instructions:

P280: Wear protective gloves/protective clothing/eye protection/face protection.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.3 Other hazards

There is no additional information available.

Section 3: Composition/information on ingredients

3.2 Mixtures

Name of substance:	Maleic acid	Oxalic acid dihydrate	Sulphamic acid
CAS No:	110-16-7	6153-56-6	5329-14-6
EC No:	203-742-5	205-634-3	226-218-8
Registration number (REACH):	-	01-2119534576-33-xxxx	01-2119488633-28-xxxx
Ratio:	15 – 25 %	15 – 25 %	50 – 60 %
Classification according to Regulation (EC) No 1272/2008 (CLP):	Acute Tox. 4 (oral), H302	Acute Tox. 4 (oral), H302	Skin Irrit. 2, H315
	Acute Tox. 4 (dermal), H312	Acute Tox. 4 (dermal), H312	Eye Irrit. 2, H319
	Skin Irrit. 2, H315	Eye Dam. 1, H318	Aquatic Chronic 3, H412
	Eye Irrit. 2, H319		
	Skin Sense. 1, H317		
	STOT SE 3, H335		

For full text of abbreviations: see section 16.

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Section 4: First aid measures

4.1 Description of first aid measures

General notes:	Remove contaminated clothing.
Following inhalation:	Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.
Following skin contact:	Rinse skin with water/shower. In all cases of doubt, or when symptoms persist, take medical advice.
Following eye contact:	In case of contact with eyes, rinse immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.
Following ingestion:	Rinse mouth. Take medical advice/assistance if you feel unwell.

4.2 Most important symptoms and effects, both acute and delayed

Irritation, Nausea, Vomiting, Cough, Breathing difficulties, Agitation, Spasms, Circulatory collapse, Risk of serious damage to eyes, Risk of blindness, Allergic reactions, Dyspnoea

4.3 Indication of any immediate medical attention and special treatment needed

No information available.

Section 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing media:	Adapt the extinguishing measures to the surrounding area. water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder
Unsuitable extinguishing media:	water in full jet

5.2 Special hazards arising from the substance or mixture

In case of fire the following can be released: Nitrogen oxides (NO_x), Sulphur oxides (SO_x), Carbon monoxide (CO), Carbon dioxide (CO₂)

5.3 Advice for firefighters

Do not inhale explosion and combustion gases.

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Do not allow firefighting water to enter drains or water courses. Wear self-contained breathing apparatus.

Section 6: Accidental release measure

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel:	Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.
Operational forces:	Protective equipment see section 8.

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6.2 Environmental precautions

Keep the compound away from drains, surface and ground water. Retain and dispose of contaminated wash water. The product is an acid. Before discharge into sewage plants the product normally needs to be neutralised.

6.3 Methods and material for containment and cleaning up

Pick up mechanically and place in suitable container for disposal. Avoid dust formation.

6.4 Reference to other sections

Hazardous combustion products, see section 5.

Information about safe handling, see section 7.

Personal protective equipment, see section 8.

Incompatible materials, see section 10.

Disposal considerations, see section 13.

Section 7: Handling and storage

7.1 Precautions for safe handling

When diluting/dissolving, always have the water ready first, then slowly stir in the product.

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs. Avoid dust formation.

7.2 Conditions for safe storage, including any incompatibilities

Information on the storage condition:

Keep container tightly closed. Store in a dry place.

Requirements for storage rooms and containers:

Recommended storage temperature 15-25 °C

Storage class:

8A (flammable corrosive hazardous substances)

7.3 Specific end use(s)

This mixture is used for the preparation of the cleaning solution for the TriOS TW Master cleaning system.

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Section 8: Exposure controls/personal protection

8.1 Control parameters

National limit values (Germany)

Occupational exposure limit value (Workplace limit values):

Name of substance	CAS No	SMW [mg/m ³]	KZW [mg/m ³]	remark	Data Source
Oxalic acid	144-62-7	1	1	H, E	TRGS 900

Note

KZW (=Kurzzeitwert; Limit value for short-term exposure): Limit value based on a duration of 15 minutes that should not be exceeded.(unless otherwise specified).

SMW (Schichtmittelwert; Limit value for long-term exposure): Time-weighted average, measured or calculated for a reference period of eight hours (unless otherwise specified).

H: Skin resorptive

E: Inhalable fraction

Human health values:

Relevant DNEL and other threshold levels of maleic acid (110-16-7)

Endpoint	threshold level	Route of exposure	Effects on health
DNEL	3 mg/m ³	Long-term inhalation exposure	Local effects
DNEL	3 mg/m ³	Long-term inhalation exposure	Systemic effects

Relevant DNEL and other threshold levels of oxalic acid (144-62-7)

Endpoint	threshold level	Route of exposure	Effects on health
DNEL	3,11 mg/m ³	Long-term inhalation exposure	Systemic effects

Relevant DNEL and other threshold levels of sulphamic acid (5329-14-6)

Endpoint	threshold level	Route of exposure	Effects on health
DNEL	70,5 mg/m ³	Long-term inhalation exposure	Systemic effects

8.2 Exposure controls

Suitable technical control device Not required

Individual protection measures (personal protective equipment)

Eye/face protection: Use safety goggles with side protection.

Hand protection: Wear suitable protective gloves. A chemical glove tested in accordance with EN 374 is suitable.

Respiratory protection: Respiratory protection is required in case of dust formation. Particulate filter device (EN 143). Type: B-P2 (combined filters for acidic gases and particles, colour code: Grey/White).

Limitation and monitoring of environmental exposure:

Keep away from drains, surface and ground water.

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Section 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state:	Solid
Form:	Powder, crystalline
Colour:	White
Odour:	Odorless
Melting point/Freezing point:	Not determined.
Boiling point or initial boiling point and boiling range:	Not determined.
Flammability:	Not determined.
Lower and upper explosion limits:	Not determined.
Flash point:	Not determined.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
pH value:	1.41 (in aqueous solution: 9.8 g/L, 20 °C)
Kinematic viscosity:	Not relevant.
Solubility:	>100 g/L at 25°C
Partition coefficient: n-octanol/water:	Not relevant.
Vapour pressure:	Not determined.
Density:	Not determined.
Relative vapour density:	Not determined.
Particle characteristics:	Not determined.

9.2 Other Information

No data available.

Section 10: Stability and reactivity

10.1 Reactivity

The product in the delivered form is not dust explosion capable; the enrichment of fine dust however leads to the danger of dust explosion.

10.2 Chemical stability

The product is stable under normal ambient conditions (room temperature).

10.3 Possibility of hazardous reactions

Danger of explosion: Chlorine, Silver, strong oxidizer

Exothermic reaction with: Nitric acid, strong oxidiser, Metal powder, Nitrate, Nitrites, Alkali, Ammonia (NH₃), Mercury, Reducing agents

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10.4 Conditions to avoid

Keep away from heat. Decomposition takes place from temperatures above >110 °C

10.5 Incompatible materials

different metals

10.6 Hazardous decomposition products

In case of fire, see section 5.

Section 11: Toxicological information

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

Acute toxicity:	Harmful if swallowed
Skin corrosion/irritation:	Causes skin irritation.
Serious eye damage/ Eye irritation:	Causes serious eye damage.
Respiratory or skin sensitisation:	May cause an allergic skin reaction.
Germ cell mutagenicity:	Is not to be classified as germ cell mutagenic.
Carcinogenicity:	Is not to be classified as carcinogenic.
Reproductive toxicity:	Is not to be classified as a reproductive toxicant.
Specific target organ toxicity (single exposure):	May cause respiratory irritation.
Specific target organ toxicity (repeated exposure):	Is not to be classified as a specific target organ toxicant (repeated exposure).
Aspiration hazard:	Is not to be classified as presenting an aspiration hazard.

Information on the substances contained in the mixture:

Maleic acid (110-16-7):

Acute toxicity:

Exposure route	Endpoint	Value	Species	Method
dermal	LD50	1560 mg/kg	Rabbit	No specification
oral	LD50	708 mg/kg	Rat	No specification

Oxalic acid (144-62-7):

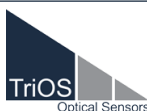
Acute toxicity:

Exposure route	Endpoint	Value	Species	Method
oral	LD50	375 mg/kg	Rat	No specification

Sulphamic acid (5329-14-6):

Acute toxicity:

Exposure route	Endpoint	Value	Species	Method
oral	LD50	3160 mg/kg	Rat	No specification



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TriOS Mess- und Datentechnik GmbH · Bürgermeister-Brötje-Str. 25 · D-26180 Rastede · Germany
Telefon: +49 (0) 4402 69670 - 0 · Fax: +49 (0) 4402 69670 - 20 · safety@trios.de · www.trios.de

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11.2 Information about other hazards

There is no other information available.

Section 12: Ecological information

12.1 Toxicity

According to 1272/2008/EC: Harmful to aquatic life with long lasting effects.

12.2 Persistence and degradability

No information available.

12.3 Bioaccumulative potential

No data available.

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

No data available.

12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of $\geq 0.1\%$.

12.7 Other adverse effects

No data available.

Information on the substances contained in the mixture:

Maleic acid (110-16-7):

Aquatic toxicity:

Endpoint	Value	Species	Exposure time
LC50	5 mg/L	Fish	96 h
EC50	316 mg/L	Crustaceans	48 h

Oxalic acid (144-62-7):

Aquatic toxicity:

Endpoint	Value	Species	Exposure time
EC50	137 mg/L	Crustaceans	48 h

Sulphamic acid (5329-14-6):

Aquatic toxicity:

Endpoint	Value	Species	Exposure time
LC50	42.2 mg/L	Fish	96 h

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Section 13: Disposal considerations

13.1 Waste treatment methods

Contact the responsible local authorities regarding waste disposal. Do not allow to enter drains.

Section 14: Transport information

14.1 UN number or ID number

UN 1759

14.2 UN proper shipping name

ADN / RID / ADN:

CORROSIVE SOLID, N.O.S. (Sulphamic acid)

IMDG-Code:

CORROSIVE SOLID, N.O.S. (SULPHAMIC ACID)

ICAO TI

Corrosive solid, n.o.s. (Sulphamic acid)

14.3 Transport hazard class(es)

8

14.4 Packing group

III

14.5 Environmental hazards

Non-environmentally hazardous acc. to the dangerous goods regulations.

14.6 Special precautions for user

There is no additional information.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable.

Section 15: Regulatory information

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

Relevant provisions of the European Union (EU):

Restriction according to REACH, Annex XVII: Restriction 75.

National inventories:

Follow national regulation for work with chemical agents.

Germany:

Water hazard class (WGK): 1 (slightly hazardous to water)

Storage class (LGK) according to TRGS 510: 8A (flammable corrosive hazardous substances)

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance.

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Section 16: Other information

Changes made (revised safety data sheet):

No changes have been made yet.

Text of the classifications used in section 3:

H302	Acute Tox. 4 (oral)	Harmful if swallowed.
H312	Acute Tox. 4 (dermal)	Harmful in contact with skin.
H315	Skin Irrit. 2	Causes skin irritation.
H317	Skin Sense. 1	May cause an allergic skin reaction.
H318	Eye Dam. 1	Causes serious eye damage.
H319	Eye Irrit. 2	Causes serious eye irritation.
H335	STOT SE 3	May cause respiratory irritation.
H412	Aquatic Chronic 3	Harmful to aquatic life with long lasting effects.

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Abbreviations and acronyms:

ADN	Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures (European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways).
ADR	Accord relatif au transport international des marchandises dangereuses par route (Agreement concerning the International Carriage of Dangerous Goods by Road).
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances).
CLP	Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.
DGR	Dangerous Goods Regulations (see IATA/DGR).
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (eg on growth) during a specified time interval.
EC No	The EC Inventory (EINECS, ELINCS and the NLP-list) is the source for the seven-digit EC number, an identifier of substances commercially available within the EU (European Union).
EINECS	European Inventory of Existing Commercial Chemical Substances.
ELINCS	European List of Notified Chemical Substances.
IATA / DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA) (Regulations for the transport of dangerous goods by air)
IATA	International Air Transport Association
ICAO	International Civil Aviation Organization
ICAO TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
KZW	Kurzzeitwert; Limit value for short-term exposure
LC50	Lethal Concentration 50 %: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval.
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval.
LGK	Storage class according to TRGS 510, Germany
PBT	Persistent, Bioaccumulative and Toxic.
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals.
RID	Règlement concernant le transport International ferroviaire des marchandises Dangereuses (Regulations concerning the International carriage of Dangerous goods by Rail).
SMW	Schichtmittelwert; Limit value for long-term exposure
TRGS	Technische Regeln für Gefahrstoffe; Germany (Technical Rules for Hazardous Substances).
vPvB	Very Persistent and very Bioaccumulative.

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Important literature and data sources:

Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures.

Regulation (EC) No. 1907/2006 (REACH), amended by 2020/878/EU.

Agreement concerning the International Carriage of Dangerous Goods by Road (ADR).

Regulations concerning the International Carriage of Dangerous Goods by Rail (RID).

International Maritime Dangerous Goods Code (IMDG).

Dangerous Goods Regulations (DGR) for the air transport (IATA).

Technical Rules for Hazardous Substances (TRGS)

GESTIS – Substance Database (Information system on hazardous substances of the German Social Accident Insurance)
