

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

KRONES colclean AD 3002
Article number: 0903204123, 0903204128, 0903204150

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

Cleaning agent

1.2.2 Uses advised against

None known.

1.3 Details of the supplier of the safety data sheet

Company KIC KRONES Internationale Cooperationsgesellschaft mbH
 Böhmerwaldstraße 5
 93073 Neutraubling / GERMANY
 Phone +49 9401 70-3020
 Fax +49 9401 70-3696
 Homepage www.kic-krones.com
 E-mail kic@kic-krones.com

Address enquiries to

Technical information kic@kic-krones.com

Safety Data Sheet sdb@chemiebueero.de

1.4 Emergency telephone number

Advisory body +49 (0)89-19240 (24h) (english)

SECTION 2: Hazards identification
2.1 Classification of the substance or mixture

Eye Irrit. 2: H319 Causes serious eye irritation.
 Met. Corr. 1: H290 May be corrosive to metals.

2.2 Label elements

The product is required to be labelled in accordance with regulation (EC) No 1272/2008 (CLP).

Hazard pictograms

Signal word

WARNING

Hazard statements

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

Precautionary statements

P280 Wear protective gloves / 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.
 P337+P313 If eye irritation persists: Get medical advice / attention.
 P390 Absorb spillage to prevent material damage.

Cleaner, 648/2004/CE, contains:

15 - <30% phosphonates

2.3 Other hazards
Physico-chemical hazards

May be corrosive to metals.

Environmental hazards

Does not contain any PBT or vPvB substances.

Other hazards

Further hazards were not determined with the current level of knowledge.

SECTION 3: Composition / Information on ingredients

Product-type:

The product is a mixture.

Range [%]	Substance
20 - <30	2-Phosphonobutan-1,2,4-tricarboxic acid
	CAS: 37971-36-1, EINECS/ELINCS: 253-733-5, Reg-No.: 01-2119436643-39-XXXX
	GHS/CLP: Met. Corr. 1: H290 - Eye Irrit. 2: H319

Comment on component parts

Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%. All chemical substances in this material are included on or exempted from listing on the TSCA Inventory.
For full text of H-statements: see SECTION 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

General information	Take off contaminated clothing and wash before reuse.
Inhalation	Ensure supply of fresh air. In the event of symptoms seek medical treatment.
Skin contact	When in contact with the skin, clean with soap and water. Consult a doctor if skin irritation persists.
Eye contact	Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. If eye irritation persists: Get medical advice/attention.
Ingestion	Rinse out mouth and give plenty of water to drink. Do not induce vomiting. Seek medical advice.

4.2 Most important symptoms and effects, both acute and delayed

No information available.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1 Extinguishing media

Suitable extinguishing media	foam, dry powder, water spray jet, carbon dioxide
Extinguishing media that must not be used	Full water jet

5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.
Carbon monoxide (CO)
Carbon dioxide (CO₂)
Phosphorus oxides (PO_x).

5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.
Use self-contained breathing apparatus.
Cool containers at risk with water spray jet.
Heat causes increase in pressure and risk of bursting - Keep away from the container.
Fire residues and contaminated firefighting water must be disposed of in accordance within the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.
Use personal protective equipment.
High risk of slipping due to leakage/spillage of product.

6.2 Environmental precautions

Prevent spread over a wide area (e.g. by containment or oil barriers).
Do not discharge into the drains/surface waters/groundwater.

6.3 Methods and material for containment and cleaning up

Pick up with absorbent material (e.g. sand, universal absorbent, diatomaceous earth).
Dispose of absorbed material in accordance within the regulations.

6.4 Reference to other sections

See SECTION 8+13

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Use only in well-ventilated areas.
Avoid contact with eyes and skin. Use personal protective equipment.

Do not eat, drink, smoke or take drugs at work.
Take off contaminated clothing and wash before reuse.
Wash hands before breaks and after work.
Use barrier skin cream.

7.2 Conditions for safe storage, including any incompatibilities

Provide acid-resistant floor.
Keep only in original container.
Do not store with alkalis.
Do not store together with metals.
Keep container tightly closed.
Keep container in a well-ventilated place.
Keep in a cool place. Store in a dry place.
Protect from heat/overheating and from sun.
Keep away from frost.

7.3 Specific end use(s)

See product use, SECTION 1.2

SECTION 8: Exposure controls / personal protection

8.1 Control parameters

Ingredients with occupational exposure limits to be monitored (GB)

not applicable

DNEL

Substance
2-Phosphonobutan-1,2,4-tricarboxic acid, CAS: 37971-36-1
Industrial, inhalative, Long-term - systemic effects: 15 mg/m ³ .
Industrial, dermal, Long-term - systemic effects: 4,2 mg/kg.
general population, inhalative, Long-term - systemic effects: 3,7 mg/m ³ .
general population, dermal, Long-term - systemic effects: 2,1 mg/kg.
general population, oral, Long-term - systemic effects: 2,1 mg/kg.

PNEC

Substance
2-Phosphonobutan-1,2,4-tricarboxic acid, CAS: 37971-36-1
sediment (freshwater), 1,47 mg/kg.
seawater, 0,33 mg/l.
freshwater, 3,33 mg/l.
sewage treatment plants (STP), 50,4 mg/l.
soil, 0,491 mg/kg.

8.2 Exposure controls

Additional advice on system design	Ensure adequate ventilation on workstation. Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
Eye protection	Tightly fitting goggles. (EN 166:2001)
Hand protection	The details concerned are recommendations. Please contact the glove supplier for further information. > 0,11 mm, > 480 min, PVC (EN 374-1/-2/-3). Gloves (acid-resistant).
Skin protection	Protective clothing. Acid-resistant protective clothing.
Other	Avoid contact with eyes and skin. Do not breathe vapour/spray. Personal protective equipment should be selected specifically for the working place, depending on concentration and quantity handled. The resistance of this equipment to chemicals should be ascertained with the respective supplier.
Respiratory protection	Breathing apparatus in the event of aerosol or mist formation. -
Thermal hazards	not applicable
Delimitation and monitoring of the environmental exposition	Protect the environment by applying appropriate control measures to prevent or limit emissions.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form	liquid
Color	colourless clear
Odor	characteristic
Odour threshold	No information available.
pH-value	ca. 1,1
pH-value [1%]	No information available.
Boiling point [°C]	ca. 100
Flash point [°C]	not applicable
Flammability (solid, gas) [°C]	not applicable
Lower explosion limit	No information available.
Upper explosion limit	No information available.
Oxidising properties	no
Vapour pressure/gas pressure [kPa]	No information available.
Density [g/ml]	1,13
Bulk density [kg/m ³]	not applicable
Solubility in water	completely miscible
Partition coefficient [n-octanol/water]	No information available.
Viscosity	No information available.
Relative vapour density determined in air	No information available.
Evaporation speed	No information available.
Melting point [°C]	< 0
Autoignition temperature [°C]	not self-igniting
Decomposition temperature [°C]	No information available.

9.2 Other information

No information available.

SECTION 10: Stability and reactivity

10.1 Reactivity

No dangerous reactions known if used as directed.

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

Reactions with alkalis (lyes).
Reactions with oxidizing agents.
Reactions with amines.
Corrosive to metals.

10.4 Conditions to avoid

Strong heating, because the thermal decomposition starts from 100 °C.

10.5 Incompatible materials

See SECTION 10.3.

10.6 Hazardous decomposition products

No dangerous reactions known if used as directed.

In the case of heating following (decomposition) products may occur:

Phosphorus oxides (PO_x).

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Substance
2-Phosphonobutan-1,2,4-tricarboxic acid, CAS: 37971-36-1
LD50, oral, Rat: >6500 mg/L (4h) (EU Method B.1).
LD50, dermal, Rat: >4000 mg/kg bw (IUCLID).
NOAEL, oral, Rat: 1000 mg/L.

Serious eye damage/irritation	Irritant Calculation method
Skin corrosion/irritation	Based on the available information, the classification criteria are not fulfilled.
Respiratory or skin sensitisation	Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — single exposure	Based on the available information, the classification criteria are not fulfilled.
Specific target organ toxicity — repeated exposure	Based on the available information, the classification criteria are not fulfilled.
Mutagenicity	Based on the available information, the classification criteria are not fulfilled.
Reproduction toxicity	Based on the available information, the classification criteria are not fulfilled.
Carcinogenicity	Based on the available information, the classification criteria are not fulfilled.
Aspiration hazard	Based on the available information, the classification criteria are not fulfilled.
General remarks	Frequent persistent contact with the skin can cause skin irritation. Toxicological data of complete product are not available. The toxicity data listed pertaining to the ingredients are intended for those working in the medicinal professions, experts for occupational health and safety and toxicologists. The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 12: Ecological information

12.1 Toxicity

Substance
2-Phosphonobutan-1,2,4-tricarboxic acid, CAS: 37971-36-1
LC50, (48h), <i>Leuciscus idus</i> : >500 mg/L (IUCLID).
EC50, (24h), <i>Daphnia magna</i> : 265 mg/L (IUCLID).
IC50, (72h), <i>Scenedesmus subspicatus</i> : 140 mg/l (Lit.).

12.2 Persistence and degradability

Behaviour in environment compartments	No information available.
Behaviour in sewage plant	No information available.
Biological degradability	The product is not readily biodegradable. 30-40 %, 28d (OECD 302A; CAS 37971-36-1) 0 %, 28d (OECD 301E; CAS 37971-36-1)

12.3 Bioaccumulative potential

logPow: -1,36 (CAS 37971-36-1)

12.4 Mobility in soil

No information available.

12.5 Results of PBT and vPvB assessment

not applicable

12.6 Other adverse effects

Harmful effect due to pH shift.

Ecological data of complete product are not available.

The toxicity data pertaining to the ingredients were supplied by the manufacturers of raw materials.

SECTION 13: Disposal considerations**13.1 Waste treatment methods**

Waste material must be disposed of in accordance with the Directive on waste 2008/98/EC as well as other national and local regulations. It is not possible to determine a waste code for this product in accordance with the European Waste Catalogue (EWC) since it is only possible to classify it according to how it is used by the customer. The waste code is to be determined within the EU in liaison with the waste-disposal operator.

Product

Coordinate disposal with the authorities if necessary.

Waste no. (recommended)

200129*

Contaminated packaging

Uncontaminated packaging may be taken for recycling.

Packaging that cannot be cleaned should be disposed of as for product.

Waste no. (recommended)

150110*

SECTION 14: Transport information**14.1 UN number**

Transport by land according to ADR/RID 3265

Inland navigation (ADN) 3265

Marine transport in accordance with IMDG 3265

Air transport in accordance with IATA 3265

14.2 UN proper shipping name

Transport by land according to ADR/RID Corrosive liquid, acidic, organic, n.o.s. (2-Phosphonobutane-1,2,4-tricarboxylic acid)

- Classification Code C3

- Label



- ADR LQ 5 l

- ADR 1.1.3.6 (8.6) Transport category (tunnel restriction code) 3 (E)

Inland navigation (ADN) Corrosive liquid, acidic, organic, n.o.s. (2-Phosphonobutane-1,2,4-tricarboxylic acid)

- Classification Code C3

- Label



Marine transport in accordance with IMDG Corrosive liquid, acidic, organic, n.o.s. (2-Phosphonobutane-1,2,4-tricarboxylic acid)

- EMS F-A, S-B

- Label



- IMDG LQ 5 l

Air transport in accordance with IATA Corrosive liquid, acidic, organic, n.o.s. (2-Phosphonobutane-1,2,4-tricarboxylic acid)

- Label

**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID 8

Inland navigation (ADN) 8

Marine transport in accordance with IMDG 8

Air transport in accordance with IATA 8

14.4 Packing group

Transport by land according to ADR/RID III

Inland navigation (ADN) III

Marine transport in accordance with IMDG III

Air transport in accordance with IATA III

14.5 Environmental hazards

Transport by land according to ADR/RID no

Inland navigation (ADN) no

Marine transport in accordance with IMDG no

Air transport in accordance with IATA no

14.6 Special precautions for user

Relevant information under SECTION 6 to 8.

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

No information available.

SECTION 15: Regulatory information**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**

EEC-REGULATIONS 1991/689 (2001/118); 2010/75; 2004/42; 648/2004; 1907/2006 (REACH); 1272/2008; 75/324/EEC (2008/47/EC); (EU) 2015/830; (EU) 2016/131; (EU) 517/2014

TRANSPORT-REGULATIONS DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2017).

NATIONAL REGULATIONS (GB): EH40/2005 Workplace exposure limits (Second edition, published December 2011). CHIP 3/ CHIP 4

- Observe employment restrictions for people Observe employment restrictions for young people.

- VOC (2010/75/CE) not applicable

15.2 Chemical safety assessment

Chemical safety assessments for substances in this mixture were not carried out.

SECTION 16: Other information**16.1 Hazard statements (SECTION 03)**

H319 Causes serious eye irritation.

H290 May be corrosive to metals.

16.2 Abbreviations and acronyms:

ADR = Accord européen relatif au transport international des marchandises Dangereuses par Route
 RID = Règlement concernant le transport international ferroviaire de marchandises dangereuses
 ADN = Accord européen relatif au transport international des marchandises dangereuses par voie de navigation intérieure
 ATE = acute toxicity estimate
 CAS = Chemical Abstracts Service
 CLP = Classification, Labelling and Packaging
 DMEL = Derived Minimum Effect Level
 DNEL = Derived No Effect Level
 EC50 = Median effective concentration
 ECB = European Chemicals Bureau
 EEC = European Economic Community
 EINECS = European Inventory of Existing Commercial Chemical Substances
 ELINCS = European List of Notified Chemical Substances
 GHS = Globally Harmonized System of Classification and Labelling of Chemicals
 IATA = International Air Transport Association
 IBC-Code = International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
 IC50 = Inhibition concentration, 50%
 IMDG = International Maritime Code for Dangerous Goods
 IUCLID = International Uniform Chemical Information Database
 LC50 = Lethal concentration, 50%
 LD50 = Median lethal dose
 LC0 = lethal concentration, 0%
 LOAEL = lowest-observed-adverse-effect level
 MARPOL = International Convention for the Prevention of Marine Pollution from Ships
 NOAEL = No Observed Adverse Effect Level
 NOEC = No Observed Effect Concentration
 PBT = Persistent, Bioaccumulative and Toxic substance
 PNEC = Predicted No-Effect Concentration
 REACH = Registration, Evaluation, Authorisation and Restriction of Chemicals
 STP = Sewage Treatment Plant
 TLV@TWA = Threshold limit value – time-weighted average
 TLV@STEL = Threshold limit value – short-time exposure limit
 VOC = Volatile Organic Compounds
 vPvB = very Persistent and very Bioaccumulative

16.3 Other information

Classification procedure

Eye Irrit. 2: H319 Causes serious eye irritation. (Calculation method)
 Met. Corr. 1: H290 May be corrosive to metals. (Calculation method)

Modified position

SECTION 7 been added: Keep away from frost.
 SECTION 7 been added: Take off contaminated clothing and wash before reuse.
 SECTION 7 been added: Avoid contact with eyes and skin. Use personal protective equipment.
 SECTION 8 been added: Measurement methods for taking workplace measurements must meet the performance requirements of DIN EN 482. For example, recommendations are given in the IFA's list of hazardous substances.
 SECTION 8 deleted: Short term: filter apparatus, filter A. (DIN EN 14387)
 SECTION 8 been added: -
 SECTION 9 been added: No information available.
 SECTION 9 deleted: not determined
 SECTION 10 been added: Reactions with amines.
 SECTION 10 been added: In the case of heating following (decomposition) products may occur:
 SECTION 10 been added: Phosphorus oxides (POx).
 SECTION 10 been added: Reactions with oxidizing agents.
 SECTION 11 deleted: not determined
 SECTION 11 been added: Based on the available information, the classification criteria are not fulfilled.
 SECTION 12 been added: No information available.
 SECTION 12 deleted: not determined



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