

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

**KRONES colclean IC 4002**  
**Article number: 0903289617, 0903289727, 0903289728**

**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@chemiebuerro.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**

Skin Corr. 1: H314 Causes severe skin burns and eye damage.  
 Eye Dam. 1: H318 Causes serious eye damage.  
 Met. Corr. 1: H290 May be corrosive to metals.  
 Acute Tox. 4: H302 Harmful if swallowed.

**2.2 Label elements**

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

**Hazard pictograms**

**Signal word**

DANGER

**Contains:**

Phosphoric acid

Formic acid

**Hazard statements**

H290 May be corrosive to metals.  
 H314 Causes severe skin burns and eye damage.  
 H302 Harmful if swallowed.

**Precautionary statements**

P260 Do not breathe vapours / spray.  
 P280 Wear protective gloves / protective clothing / eye protection / face protection.  
 P301+P330+P331 IF SWALLOWED: rinse mouth. Do NOT induce vomiting.  
 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 CENTER / doctor.  
 P501 Dispose of contents/container in accordance with local/national regulation.

**Cleaner, 648/2004/CE, contains:**

< 5% non-ionic surfactants  
 < 5% amphoteric surfactants

### 2.3 Other hazards

**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
40 - < 50	Phosphoric acid CAS: 7664-38-2, EINECS/ELINCS: 231-633-2, EU-INDEX: 015-011-00-6, Reg-No.: 01-2119485924-24-XXXX GHS/CLP: Met. Corr. 1: H290 - Skin Corr. 1B: H314 - Acute Tox. 4: H302
10 - < 15	Formic acid CAS: 64-18-6, EINECS/ELINCS: 200-579-1, EU-INDEX: 607-001-00-0, Reg-No.: 01-2119491174-37-XXXX GHS/CLP: Flam. Liq. 3: H226 - Skin Corr. 1A: H314 - Acute Tox. 4: H302 - Acute Tox. 3: H331
0,1 - <2,5	Fatty alcohol alkoxyolate 2 / Ref.Nr.: 02-2119548485-30-0000 GHS/CLP: Aquatic Chronic 3: H412 - Eye Dam. 1: H318

**Comment on component parts** Substances of Very High Concern - SVHC: substances are not contained or are below 0.1%.  
For full text of H-statements: see SECTION 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

<b>General information</b>	Remove contaminated soaked clothing immediately and dispose of safely.
<b>Inhalation</b>	Ensure supply of fresh air. Remove the victim into fresh air and keep him calm. Consult a doctor immediately.
<b>Skin contact</b>	Immediate medical treatment necessary, as untreated burns can result in slow-healing wounds. In case of contact with skin wash off immediately with plenty of water.
<b>Eye contact</b>	Consult a doctor immediately. Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Shield unaffected eye.
<b>Ingestion</b>	Consult a doctor immediately. Rinse out mouth and give plenty of water to drink. Do not induce vomiting. Do not attempt to neutralize.

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

Product is caustic.

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

Treat symptomatically.

## SECTION 5: Fire-fighting measures

### 5.1 Extinguishing media

<b>Suitable extinguishing media</b>	All extinguishing media are suitable but method must take into account the surrounding area to minimize dispersion.
<b>Extinguishing media that must not be used</b>	Full water jet

## 5.2 Special hazards arising from the substance or mixture

Risk of formation of toxic pyrolysis products.  
Phosphorus oxides (PO<sub>x</sub>).  
Carbon monoxide (CO)

## 5.3 Advice for firefighters

Do not inhale explosion and/or combustion gases.  
Use self-contained breathing apparatus.  
Wear full protective suit.

Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

## SECTION 6: Accidental release measures

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.  
Use personal protective equipment.  
Remove persons to safety.

### 6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater.  
In case the product spills into drains/surface waters/groundwater, immediately inform the authorities.

### 6.3 Methods and material for containment and cleaning up

Take up with absorbent material (e.g. acid binder).  
Dispose of absorbed material in accordance with 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 spilling or spraying in enclosed areas.  
When diluting, always stir product into water.  
Avoid contact with eyes and skin. Use personal protective equipment.

Do not eat, drink, smoke or take drugs at work.  
Remove soiled or soaked clothing immediately.  
Clean skin thoroughly after work, apply skin cream.  
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 reducing agents.  
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.

### 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)**

Substance
Phosphoric acid
CAS: 7664-38-2, EINECS/ELINCS: 231-633-2, EU-INDEX: 015-011-00-6, Reg-No.: 01-2119485924-24-XXXX
Long-term exposure: 1 mg/m <sup>3</sup>
Short-term exposure (15-minute): 2 mg/m <sup>3</sup>
Formic acid
CAS: 64-18-6, EINECS/ELINCS: 200-579-1, EU-INDEX: 607-001-00-0, Reg-No.: 01-2119491174-37-XXXX
Long-term exposure: 5 ppm, 9,6 mg/m <sup>3</sup>

**Ingredients with occupational exposure limits to be monitored (EU)**

Substance / EC LIMIT VALUES
Phosphoric acid
CAS: 7664-38-2, EINECS/ELINCS: 231-633-2, EU-INDEX: 015-011-00-6, Reg-No.: 01-2119485924-24-XXXX
Eight hours: 1 mg/m <sup>3</sup>
Short-term (15-minute): 2 mg/m <sup>3</sup>
Formic acid
CAS: 64-18-6, EINECS/ELINCS: 200-579-1, EU-INDEX: 607-001-00-0, Reg-No.: 01-2119491174-37-XXXX
Eight hours: 5 ppm, 9 mg/m <sup>3</sup>

**DNEL**

Substance
Phosphoric acid, CAS: 7664-38-2
Industrial, inhalative, Long-term - local effects: 2,92 mg/m <sup>3</sup> .
Industrial, inhalative, Long-term - systemic effects: 10,7 mg/m <sup>3</sup> .
general population, inhalative, Long-term - systemic effects: 4,57 mg/m <sup>3</sup> .
general population, inhalative, Long-term - local effects: 0,73 mg/m <sup>3</sup> .
general population, oral, Long-term - systemic effects: 0,1 mg/kg.

## 8.2 Exposure controls

<b>Additional advice on system design</b>	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.
<b>Eye protection</b>	Tightly fitting goggles. (EN 166:2001) Face shield.
<b>Hand protection</b>	The details concerned are recommendations. Please contact the glove supplier for further information. ≥ 0,5 mm, Butyl rubber, >480 min (EN 374-1/-2/-3). ≥ 0,5 mm, Viton, >480 min (EN 374-1/-2/-3). ≥ 0,5 mm, Nitrile rubber, >480 min (EN 374-1/-2/-3).
<b>Skin protection</b>	Acid-resistant protective clothing.
<b>Other</b>	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.
<b>Respiratory protection</b>	Respiratory protection mask in the event of high concentrations. Multi-purpose filter ABEK. (DIN EN 14387)
<b>Thermal hazards</b>	not applicable
<b>Delimitation and monitoring of the environmental exposition</b>	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

<b>Form</b>	liquid
<b>Color</b>	colourless clear
<b>Odor</b>	pungent
<b>Odour threshold</b>	No information available.
<b>pH-value</b>	strongly acidic
<b>pH-value [1%]</b>	< 1
<b>Boiling point [°C]</b>	> 100
<b>Flash point [°C]</b>	No information available.
<b>Flammability (solid, gas) [°C]</b>	not applicable
<b>Lower explosion limit</b>	No information available.
<b>Upper explosion limit</b>	No information available.
<b>Oxidising properties</b>	no
<b>Vapour pressure/gas pressure [kPa]</b>	No information available.
<b>Density [g/ml]</b>	ca. 1,38
<b>Bulk density [kg/m³]</b>	not applicable
<b>Solubility in water</b>	completely miscible
<b>Partition coefficient [n-octanol/water]</b>	No information available.
<b>Viscosity</b>	No information available.
<b>Relative vapour density determined in air</b>	No information available.
<b>Evaporation speed</b>	No information available.
<b>Melting point [°C]</b>	< 0
<b>Autoignition temperature [°C]</b>	not self-igniting
<b>Decomposition temperature [°C]</b>	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 normal ambient conditions (ambient temperature).

### **10.3 Possibility of hazardous reactions**

Reactions with alkalis (lyes).  
Reactions with metals, with evolution of hydrogen.  
Reactions with reducing agents.  
Reactions with oxidizing agents.  
Reactions with amines.

### **10.4 Conditions to avoid**

Strong heating.

### **10.5 Incompatible materials**

See SECTION 10.3.

### **10.6 Hazardous decomposition products**

In the event of fire: See SECTION 5.

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

Product
ATE-mix, oral, > 300 - 2000 mg/kg.
ATE-mix, inhalative, > 20 mg/l/4h.
Substance
Fatty alcohol alkoxyate 2 / Ref.Nr.: 02-2119548485-30-0000
LD50, oral, Rat: > 2000 - 5000 mg/kg.
Phosphoric acid, CAS: 7664-38-2
LD50, dermal, Rabbit: 2740 mg/kg.
LD50, oral, Rat: > 500 - 2000 mg/kg (OECD 423).
NOAEL, oral, Rat: 250 mg/kg.
ATE, oral, 667 mg/kg (75%).
Formic acid, CAS: 64-18-6
LD50, oral, Rat: 730 mg/kg.
LC50, inhalative, Rat: 7,85 mg/l/4h.

<b>Serious eye damage/irritation</b>	Risk of serious damage to eyes. Calculation method
<b>Skin corrosion/irritation</b>	Product is caustic. Calculation method
<b>Respiratory or skin sensitisation</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — single exposure</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Specific target organ toxicity — repeated exposure</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Mutagenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Reproduction toxicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Carcinogenicity</b>	Based on the available information, the classification criteria are not fulfilled.
<b>Aspiration hazard</b>	Based on the available information, the classification criteria are not fulfilled.
<b>General remarks</b>	If swallowed - risk of perforation! Inhalation causes persistent cough, difficulty in breathing 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
Fatty alcohol alkoxyolate 2 / Ref.Nr.: 02-2119548485-30-0000
LC50, (96h), <i>Leuciscus idus</i> : > 1 - 10 mg/l.
EC50, (96h), Algae: > 1 - 10 mg/l.
EC50, (48h), <i>Daphnia sp.</i> : > 1 - 10 mg/l.
NOEC, (96h), <i>Selenastrum capricornutum</i> : > 0,1 - 1 mg/l.
EC10, Activated sludge: > 10000 mg/l/0,5h (DIN 38412-27).
Phosphoric acid, CAS: 7664-38-2
LC50, (96h), <i>Lepomis macrochirus</i> : 98 - 106 mg/l.
EC50, (72h), Algae: > 100 mg/l.
EC50, (48h), <i>Daphnia magna</i> : > 100 mg/l.
Formic acid, CAS: 64-18-6
LC50, (96h), <i>Leuciscus idus</i> : 46 - 100 mg/l.
EC50, (72h), Algae: 72 mg/l.
EC50, (48h), <i>Daphnia magna</i> : 32 mg/l.

### 12.2 Persistence and degradability

COD: 348 mg/g (CAS 64-18-6)  
BOD 5: 86 mg/g (CAS 64-18-6)

#### Behaviour in environment compartments

No information available.

#### Behaviour in sewage plant

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

#### Biological degradability

The surfactants contained in this preparation comply with the biodegradability criteria as laid down in Regulation (EC) No.648/2004 on detergents.  
Data to support this assertion are held at the disposal of the competent authorities of the Member States and will be made available to them, at their direct request or at the request of a detergent manufacturer.

### 12.3 Bioaccumulative potential

BCF: 0,22 (CAS 64-18-6)

### 12.4 Mobility in soil

No information available.

### 12.5 Results of PBT and vPvB assessment

Based on all available information not to be classified as PBT or vPvB respectively.

### 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

Dispose of as hazardous waste.  
Coordinate disposal with the authorities if necessary.

**Waste no. (recommended)** 060104\*  
070601\*  
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** 3412

**Inland navigation (ADN)** 3412


**Marine transport in accordance with IMDG** 3412


**Air transport in accordance with IATA** 3412

**14.2 UN proper shipping name**

Transport by land according to ADR/RID	Formic Acid, solution
- Classification Code	C3
- Label	
- ADR LQ	1 I
- ADR 1.1.3.6 (8.6)	Transport category (tunnel restriction code) 2 (E)

Inland navigation (ADN)	Formic Acid, solution
- Classification Code	C3
- Label	

Marine transport in accordance with IMDG	Formic Acid, solution
- EMS	F-A, S-B
- Label	
- IMDG LQ	1 I

Air transport in accordance with IATA	Formic Acid, solution
- Label	

**14.3 Transport hazard class(es)**

Transport by land according to ADR/RID	8
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Inland navigation (ADN)	8
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Marine transport in accordance with IMDG	8
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Air transport in accordance with IATA	8
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**14.4 Packing group**

Transport by land according to ADR/RID	II
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Inland navigation (ADN)	II
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Marine transport in accordance with IMDG	II
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Air transport in accordance with IATA	II
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**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**

<b>EEC-REGULATIONS</b>	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
<b>TRANSPORT-REGULATIONS</b>	DOT-Classification, ADR (2017); IMDG-Code (2017, 38. Amdt.); IATA-DGR (2017).
<b>NATIONAL REGULATIONS (GB):</b>	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. Observe employment restrictions for mothers-to-be and nursing mothers.
- VOC (2010/75/CE)	not applicable

**15.2 Chemical safety assessment**

For the following substances of this preparation a chemical safety assessment has been carried out:  
Phosphoric acid  
formic acid

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

H318 Causes serious eye damage.  
H412 Harmful to aquatic life with long lasting effects.  
H331 Toxic if inhaled.  
H226 Flammable liquid and vapour.  
H302 Harmful if swallowed.  
H314 Causes severe skin burns and eye damage.  
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**

Skin Corr. 1: H314 Causes severe skin burns and eye damage. (Calculation method)  
 Eye Dam. 1: H318 Causes serious eye damage. (Calculation method)  
 Met. Corr. 1: H290 May be corrosive to metals. (Calculation method)  
 Acute Tox. 4: H302 Harmful if swallowed. (Calculation method)

**Modified position**

SECTION 2 been added: H302 Harmful if swallowed.

SECTION 2 been added: exclamation mark

SECTION 2 been added: Acute Tox. 4

SECTION 2 been added: Skin Corr. 1

SECTION 2 deleted: Skin Corr. 1A

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 9 deleted: not determined

SECTION 9 been added: No information available.

SECTION 11 been added: Based on the available information, the classification criteria are not fulfilled.

SECTION 11 been added: Risk of serious damage to eyes.

SECTION 11 deleted: not determined

SECTION 11 been added: Calculation method

SECTION 12 been added: No information available.

SECTION 12 deleted: not determined

SECTION 16 been added: Calculation method

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