



# Material Safety Data Sheet

According to Commission regulation (EU) 2020/878 and article 31 EU REACH Regulation

Revision:  
10.07.2024

Update date:-

## Cleaning fluids ARMAcleaner series

Version 1.0

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

#### 1.1 Product identifier

Cleaning fluids ARMAcleaner series

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

**Relevant identified uses:** The liquid in appropriate dilution is used to clean elements made of steel (black stainless steel and acid-resistant), brass and copper from operational deposits and carbon deposits.

**Uses advised against:** No further relevant information available.

#### 1.3 Details of the supplier of the safety data sheet:

**Supplier:** EKOCHEM Sp. z o.o. Przedsiębiorstwo Usługowo Badawcze  
**Street address:** ul. Piaskowa 17B  
**Country/Postcode:** Poland, 44-164 Gliwice, Rzeszyce Śląskie  
**Telephone number:** +48 (32) 230 49 51 +48 (32) 301 55 44  
**E-mail:** biuro@ekochem.com

#### 1.4 Emergency telephone number:

112

### SECTION 2: Hazards identification

#### 2.1 Classification of the substance or mixture

##### Mixture:

Classification according to Regulation (EC) No 1272/2008 (CLP)

Eye Irrit.2 H319 Causes serious eye irritation. (Serious eye damage/eye irritation, Hazard Category 2)

#### 2.2 Label elements

##### Hazard pictograms:



##### Signal word:

WARNING

##### Hazard statements:

H319 Causes serious eye irritation.

##### Precautionary statements:

P264 Wash hands thoroughly after handling.

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.

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

#### 2.3 Other hazards

The mixture does not contain substances meeting the PBT or vPvB criteria in accordance with Annex XIII of the REACH Regulation in a concentration  $\geq 0.1\%$  w/w.

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

### SECTION 3: Composition/information on ingredients

**3.1 Substances:** Not applicable.

#### 3.2 Mixtures:

Name	Identifiers	[% weight]	Classification according to Regulation (EC)
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			No 1278/2008 (CLP).
<b>Citric acid monohydrate</b>	Index No: 607-750-00-3 EC No: 201-069-1 CAS No: 5949-29-1 REACH Registration No: 01-2119457026-42-XXXX	5-10	Eye Irrit.2 H319 STOT SE.3 H335
<b>Phosphoric acid 75%</b>	Index No: 015-011-00-6 EC No: 231-633-2 CAS No: 7664-38-2 REACH Registration No: 01-2119485924-24-XXXX	0-5	Met. Corr.1 H290 Acute Tox.4 H302 Skin Corr.1B H314 Note B Specific conc. Limits: Eye Irrit.2 H319: 10% ≤C< 25% Skin Corr.1B H314: C ≥ 25% Skin Irrit.2 H315: 10% ≤C< 25% EU Limits
<b>2-butoxyethanol</b>	Index No: 603-014-00-0 EC No: 203-905-0 CAS No: 111-76-2 REACH Registration No: 01-2119475108-36-XXXX	<1	Acute Tox.4 H302 Acute Tox.4 H312 Skin Irrit.2 H315 Eye Irrit.2 H319 Acute Tox.3 H331 ATE= 1200 mg/kg (oral) ATE= 3 mg/l/ vapours (inhalation) EU Limits
<b>2-aminoethanol</b>	Index No: 603-030-00-8 EC No: 205-483-3 CAS No: 141-43-5 REACH Registration No: 01-2119486455-28-XXXX	<0,01	Acute Tox.4 H302 Acute Tox.4 H312 Skin Corr.1B H314 Acute Tox.4 H332 STOT SE.3 H335 Aquatic Chronic 3 H412 Specific conc. Limits: STOT SE 3; H335: C ≥ 5 % EU Limits

Note B- Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid ... %'. The Full Text for all H-Phrases and Hazard Statements are Displayed in Section 16.

## SECTION 4: First aid measures

### 4.1 Description of first aid measures

**Following eye contact:** Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes. Get medical attention if any discomfort continues.

**Following inhalation:** Move the exposed person to fresh air at once. Provide fresh air, warmth and rest, preferably in a comfortable upright sitting position. Get medical attention if any discomfort continues.

**Following skin contact:** Immediately remove contaminated clothing. Wash the skin with plenty of water. Contaminated clothing should be washed before re-use. Get medical attention if any discomfort continues.

**Following ingestion:** Do not induce vomiting. Rinse mouth with water. Never give anything by mouth to an unconscious person. Seek medical advice. Provide ventilation.

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

Causes serious eye irritation.

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

If any symptoms persist seek medical advice and show the msds or label.

**Notes for the doctor:** Treat symptomatically.



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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

**Suitable extinguishing media:** foam, carbon dioxide, dry powder, water spray.

**Unsuitable extinguishing media:** do not use water in a jet.

#### 5.2 Special hazards arising from the substance or mixture

Thermal decomposition or combustion may liberate toxic fumes. Do not inhale combustion products, it may cause health risk.

#### 5.3 Advice for firefighters

**Special Fire Fighting Procedures:** Wear full protective clothing and self-contained breathing apparatus.

**Protective equipment for fire-fighters:** Keep containers cool by spraying with water. If possible, remove containers from the danger zone. Prevent from spreading or entering drains, ditches or rivers. Dispose of released and contained material in accordance with local regulations.

### SECTION 6: Accidental release measures

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

**For non-emergency personnel:**

Removed from the danger area all persons not involved in the emergency. If necessary, order the evacuation. Avoid contact with skin, eyes. Avoid inhalation of vapours. Provide ventilation.

**For emergency responders:**

Wear protective clothing as described in Section 8.

#### 6.2 Environmental precautions

Do not discharge into drains, water courses or into the ground. Local authorities should be advised if any exposure to the environment occurs.

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

Spills absorb with liquid-binding material (eg. sawdust, sand). Collect in a waste container. Dispose of waste according to the applicable local and national regulation. Ventilate the area with fresh air. Rinse the contaminated surface with water.

#### 6.4 Reference to other sections

See Section 8 for information on personal protective equipment.

See Section 13 for disposal information.

### SECTION 7: Handling and storage

#### 7.1 Precautions for safe handling

**Protective measures:**

Use only in a well-ventilated area. Avoid breathing vapour. Avoid contact with eyes, skin. When handling, use appropriate personal protective equipment (see Section 8). Keep away from heat. Do not smoke! When using do not eat or drink.

**Advice on general occupational hygiene:**

Ensure good ventilation / exhaustion at the workplace. When using do not eat, drink or smoke. Wash hand before and after work with product. Contaminated clothing should be washed before re-use.

#### 7.2 Conditions for safe storage, including any incompatibilities

Store in tightly closed original container in a dry, cool and well-ventilated place. Keep away from heat, sparks, sunlight, open flame and smoking. Store only in plastic (PE) packaging.

#### 7.3 Specific end use(s)

See point 1.2

### SECTION 8: Exposure controls/personal protection

#### 8.1 Control parameters

International Limits Values:



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Please check your national regulations

substance	CAS No:	Basis / Country	Short Time Value [mg/m <sup>3</sup> ]	Short Time Value [ppm-Calculated]	Time Weighted Average Exposure Limit [mg/m <sup>3</sup> -8 h]	Time Weighted Average Exposure Limit [ppm-Calculated]
Phosphoric acid 75%	7664-38-2	EU	2	-	1	-
		Belgium	2	-	1	-
		Finland	2	-	1	-
		France	2	-	1	-
		Germany	4	-	2	-
		Latvia	2	-	1	-
2-butoxyethanol	111-76-2	EU	246	50	98	20
		Belgium	246	50	98	20
		Finland	250	50	98	20
		France	246	50	49	10
		Germany	98	20	49	10
		Latvia	246	50	98	20
2-aminoethanol	141-43-5	EU	7,6	3	2,5	1
		Belgium	7,6	3	2,5	1
		Finland	7,6	3	2,5	1
		France	7,6	3	2,5	1
		Germany	0,5	0,2	0,5	0,2
		Latvia	7,6	3	0,5	0,2

DNEL Phosphoric acid 75%

Workers, Inhalation, Long-term local effects: 2,92 mg/m<sup>3</sup>

Consumers, Inhalation, Long-term local effects: 0,73 mg/m<sup>3</sup>

DNEL 2-butoxyethanol

Workers, Skin, Short-term systemic effects: 89 mg/kg/day

Workers, Inhalation, Short-term systemic effects: 663 mg/m<sup>3</sup>

Workers, Inhalation, Short-term local effects: 243 mg/m<sup>3</sup>

Workers, Skin, Long-term systemic effects: 7589 mg/kg/day

Workers, Inhalation, Long-term systemic effects: 98 mg/m<sup>3</sup>

Consumers, Skin, Short-term systemic effects: 44,5 mg/kg/day

Consumers, Inhalation, Short-term systemic effects: 426 mg/m<sup>3</sup>

Consumers, oral, short-term systemic effects: 13,4 mg/kg/day

Consumers, Inhalation, short-term local effects: 123 mg/m<sup>3</sup>

Consumers, dermal, Long-term systemic effects: 38 mg/kg/day

Consumers, Inhalation, Long-term systemic effects: 49 mg/m<sup>3</sup>

Consumers, oral, Long-term systemic effects: 3,2 mg/kg/day

PNEC 2-butoxyethanol

Fresh water – 8,8mg/l

Marine water – 0,88 mg/l

Fresh water sediment- 34,6 mg/kg

Marine water sediment– 3,46 mg/kg

Soil – 3,13 mg/kg

STP- 463 mg/l

Oral: 20mg/l

## 8.2 Exposure controls

### Appropriate engineering controls

Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. When using do not eat, drink or smoke.

### Individual protection measures, such as personal protective equipment

#### Eye/face protection



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Avoid contact with eyes. Wear approved chemical safety goggles where eye exposure is reasonably probable. Use equipment for eye protection tested and approved under appropriate government standards such as EN 166.

### Skin protection:

**Hand protection:** Use gloves. Gloves must be inspected prior to use. Use gloves:

material type: NBR (Nitrile rubber)

thickness: >0.3 mm

time penetration: > 480 minutes

The selected protective gloves have to satisfy the specifications of Directive 89/686 / EEC and EN 374.

**Other:** Wear protective clothing. Contaminated clothing should be washed before re-use.

**Respiratory protection:** Where risk assessment shows air-purifying respirators are appropriate use a face respirator. It is recommended to use respiratory equipment with filter AP2.

**Thermal hazards:** Protection is not required; the product poses no thermal risk.

### Environmental exposure controls

Local guidelines on emission limits for volatile substances must be observed for the discharge of exhaust air containing vapour. Do not discharge into drains, water courses or into the ground. Local authorities should be advised if any exposure to the environment occurs.

## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Colour	Colourless
Odour	slightly irritating, specific
Melting point/freezing point	No data available
Boiling point or initial boiling point and boiling range	>100°C
Flammability	No data available
Lower and upper explosion limit	No data available
Flash point	No data available
Auto-ignition temperature	No data available
Decomposition temperature	No data available
pH	>2
Kinematic viscosity	No data available
Solubility	soluble in water
Partition coefficient n-octanol/water (log value)	No data available
Vapour pressure	No data available
Density and/or relative density	No data available
Relative vapour density	No data available
Particle characteristics	No data available

### 9.2 Other information:

No data available.

## SECTION 10: Stability and Reactivity

### 10.1 Reactivity

Not reactive under normal conditions of storage and use. Reacts with metals and their compounds.

### 10.2 Chemical stability



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Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

No hazardous reactions are expected under normal conditions of storage and use.

### 10.4 Conditions to avoid

Avoid frost.

### 10.5 Incompatible materials

Bases compounds, metals, metal oxides, strong oxidants

### 10.6 Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.  
 Hazardous decomposition products: phosphorus oxides, sulfur oxides, nitrogen oxides, ammonia, formaldehyde and carbon monoxide.

## SECTION 11: Toxicological information

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

#### Acute toxicity

Phosphoric acid 75%

LD50 (rat, oral) 1158 mg/kg (solution)

LC50 (rat, inhalation) 0,74 mg/L

LD50 (rabbit, dermal) 2740 mg/kg

2-butoxyethanol

LD50 (rat, oral) >200-2000 mg/kg

LC50 (rat, inhalation) 2-20 mg/L/4h

LD50 (rat, dermal) >400-2000 mg/kg

Citric acid

LD50 (mouse, oral) 5400 mg/kg

LD50 (rat, dermal) >2000 mg/kg

ATEmix- calculated:

Acute toxicity (oral) :> 2000 mg/kg; not classified

Acute toxicity (dermal): >2000 mg/kg; not classified

Acute toxicity (inhalation) :>20 mg/kg; not classified

#### Skin corrosion/irritation

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

#### Serious eye damage/irritation

Causes serious eye irritation.

#### Respiratory or skin sensitisation

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

#### Germ cell mutagenicity

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

#### Carcinogenicity

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

#### Reproductive toxicity

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

#### STOT-single exposure

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

#### STOT-repeated exposure

Based on available data, the classification criteria are not met

#### Aspiration hazard

Based on available data, the classification criteria are not met

### 11.2 Information on other hazards

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of



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REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

### SECTION 12: Ecological information

#### 12.1 Toxicity

No data available for the mixture.

Phosphoric acid 75%

Aquatic invertebrates

EC50 >100mg/L/48h

Algae and bacteria

EC50 >1.000 mg/l/3h

2-butoxyethanol

Fish (*Lepomis macrochirus*)

LC50 >100mg/L/96h

Aquatic invertebrates (*Daphnia magna*)

EC50 >100mg/L/24h

Algae and bacteria (*Desmodesmus subspicatus*)

EC50 >100 mg/l/ 7d

#### 12.2 Persistence and degradability

No further relevant information available.

2-butoxyethanol: Readily biodegradable. 70% after 28 days.

#### 12.3 Bioaccumulative potential

No further relevant information available.

#### 12.4 Mobility in soil

No further relevant information available.

#### 12.5 Results of PBT and vPvB assessment

The mixture does not contain substances meeting the PBT or vPvB criteria in accordance with Annex XIII of the REACH Regulation in a concentration  $\geq 0.1\%w/w$

#### 12.6 Endocrine disrupting properties

The mixture does not contain substance(s) included in the list established in accordance with Article 59(1) of REACH for having endocrine disrupting properties, or is not identified as having endocrine disrupting properties in accordance with the criteria set out in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at a concentration equal to or greater than 0,1 %

#### 12.7 Other adverse effects

No further relevant information available.

### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

Waste is classified as hazardous waste. Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives.

### SECTION 14: Transport Information

	ADR/RID	ADN/ADNR	IMDG	IATA
14.1. UN number or ID number	Not applicable	Not applicable	Not applicable	Not applicable
14.2. UN proper shipping name	Not applicable	Not applicable	Not applicable	Not applicable
14.3. Transport hazard class(es)	Not applicable	Not applicable	Not applicable	Not applicable
14.4. Packing group	Not applicable	Not applicable	Not applicable	Not applicable



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<b>14.5. Environmental hazards</b>	NO	NO	NO	NO
<b>14.6. Special precautions for user</b>	Not applicable	Not applicable	Not applicable	Not applicable
<b>14.7. Maritime transport in bulk according to IMO instruments</b>	Not applicable	Not applicable	Not applicable	Not applicable

## SECTION 15: Regulatory information

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

Commission Regulation (EU) 2020/878 of 18 June 2020 amending Annex II to Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

Commission Directive 2000/39/EC of 8 June 2000 establishing a first list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH),

Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending Regulation (EC) No 1907/2006 with amendments.

2014/955/EU: Commission Decision of 18 December 2014 amending Decision 2000/532/EC on the list of waste pursuant to Directive 2008/98/EC of the European Parliament and of the Council Text with EEA relevance.

Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives

### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this mixture by the supplier.

## SECTION 16: Other information

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

Calculated method

Eye Irrit.2 H319

### Relevant H-statements (number and full text)

H290 May be corrosive to metals.

H302 Harmful if swallowed.

H312 Harmful in contact with skin.

H314 Causes severe skin burns and eye damage.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H331 Toxic if inhaled.

H332 Harmful if inhaled.

H335 May cause respiratory irritation.


H412 Harmful to aquatic life with long lasting effects.

### Additional Information

The information provided in this Safety Data Sheet is correct to the best of our knowledge, Information and belief at the date of its publication. The information given is designed only as guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

It is the responsibility of persons in receipt of this Product Safety Data Sheet to ensure that the information



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contained herein is properly read and understood by all people who may use, handle, dispose or in any way come in contact with the product. If the recipient subsequently produces a formulation containing the product, it is the recipient's sole responsibility to ensure the transfer of all relevant information from the Product Safety Data Sheet to their own Product Safety Data Sheet.

All information and instructions provided in this Safety Data Sheet (SDS) are based on the current state of scientific and technical knowledge at the date indicated on the present SDS. As stated above, this Safety Data Sheet has been prepared in compliance with applicable European law. If you purchase this material outside Europe, where compliance laws may differ, you should receive from your local supplier a SDS applicable to the country in which the product is sold and intended to be used. Please note that the appearance and content of the SDS may vary –even for the same product between different countries, reflecting the different compliance requirements.