SAFETY DATA SHEET
IN ACCORDANCE WITH REGULATION (EC) 1907/2006 (REACH)
Radiator cleaner

Preparing date: 04 November 2024 **Version: 1.**

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

1.1 Product identifier: Radiator cleaner

UFI: CPP5-GRCS-9SK2-2GC7

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

Identified uses: Maintenance
for consumer, professional and industrial use.

Uses advised against: Other than above.

1.3 Details of the supplier of the safety data sheet:

Distributor:
SZAKAL MET-AL Zrt
2040 Budaörs, Kamaraerdei u 9/C.
Tel.: +36 23 431-000
HUNGARY

Email address for a competent person responsible for the safety data sheet:
kozpont@szakalmetal.hu

1.4 Emergency telephone number:
Health Toxicological Information Service, Hungary:
06-80-201-199 (free charge, 24 hours a day- from Hungary only)
06-1-476 6464 (Available 0-24 hours for a standard fee - also from abroad)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture:
in accordance with Regulation (EC) No 1272/2008 (CLP)

Skin corrosion/irritation, Category 1B	H314 Causes severe skin burns and eye damage.

2.2 Label elements:

Dangerous substance(s) to be indicated: ortho-Phosphoric acid

Danger

Hazard Statement(s):

H314 Causes severe skin burns and eye damage.

Precautionary Statement(s):

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of reach of children.
P262 Do not get in eyes, on skin, or on clothing.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER/doctor/…
P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water [or shower].
P304+P340 F INHALED: Remove person to fresh air and keep comfortable for breathing. 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.
P333 + P313 If skin irritation occurs: Get medical advice/attention.
P501 Dispose of contents/ container to as hazardous waste in accordance with local/ regional/national/international regulation.

2.3 Other hazards:

Human health effects: *Orthophosphoric acid data*: Irritates the respiratory tract. Causes burns to the skin. May cause permanent eye damage. Causes burns to the digestive tract.
Results of the PBT and vPvB assessment: Does not meet the criteria for PBT or vPvB substances.
Endocrine disrupting properties: No data available.

SECTION 3: Composition/information on ingredients

3.2 Mixtures:

Substance	CAS Number	EC Number	Index Number/ REACH Registration Number	Concentration by weight	Classification in accordance with Regulation (EC) No 1272/2008
Orthphfosphoric acid (75%, food grade.)	7664-38-2	231-633-2	015-011-00-6/ 01-2119485924-24- xxxx	33%	Skin Corr. 1B, H314
Citric acid monohydrate	5949-29-1	201-069-1	-	>10%	Eye Irrit. 2, H319 *
Triethyanolamine (2,2'2"-nitrilotriethanol)	102-71-6	203-049-8	-	>20%	Not Classified *

* Classification given by the manufacturer.

Specific Concentration limits
orthophosphoric acid 75%
Eye Irrit. 2 : H319: 10 % ≤ C < 25 %
Skin Corr. 1B : H314: C ≥ 25 %
Skin Irrit. 2: H315: 10 % ≤ C < 25 %

For the full text of H-sentences mentioned in this Section, see Section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures:

Inhalation: The injured person should be taken to fresh air and given rest. In case of respiratory irritation (coughing) or breathing difficulties, call a doctor immediately.

Skin contact: Clothing contaminated or soaked with the product should be removed immediately. The affected skin should be washed with soap and water. In case of complaints, seek medical advice.

Eye contact: The eyes should be rinsed thoroughly with plenty of running water for at least 15 minutes (with the eyelids pulled apart). Contact lenses should be removed if they are present and this can be easily done. An ophthalmologist should be consulted.

Ingestion: If the injured person is conscious, rinse the mouth with water, do not vomit. If vomiting starts on its own, tilt the head forward. A doctor should be called immediately. Show the label to the doctor.

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

Orthophosphoric acid data: highly corrosive and destructive to tissues. Ingestion causes severe corrosive damage to the mouth and throat, with a risk of perforation of the oesophagus and stomach.

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

Show the safety data sheet or label to the doctor if possible. It should be treated symptomatically.

SECTION 5: Firefighting measures

5.1 Extinguishing media:

Suitable extinguishing agent: extinguishing agent suitable for the environment can be used.
Foam, water mist (only trained personnel should use).
Unsuitable extinguishing agent: strong water jet.

5.2 Special hazards arising from the substance or mixture:

Orthophosphoric acid data: reacts with metals to form hydrogen. Explosion hazard. Decomposes on heating.
Hazardous combustion products.

5.3 Advice for firefighters:

Full fire-resistant protective equipment. In the event of fire, breathing apparatus independent of ambient air must be worn.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures:

Persons not trained for emergency situations should be kept away.
Unauthorised persons must be kept away.
Ensure adequate ventilation.
Avoid contact with skin or eyes.
Vapour/spray of the product must not be inhaled.
Wear full protective clothing and breathing apparatus independent of ambient air.

6.2 Environmental precautions:

The product must not be discharged into drains or watercourses.

6.3 Methods and material for containment and cleaning up:

Stop the leak if it can be done without risk.

Only a trained worker should control the clean-up. Spillage must not be touched without protective equipment. Liquid residues should be collected with absorbent, non-combustible material (dry earth, sand, etc.) and collected until disposal.

6.4 Reference to other sections:

Safe handling: see Section 7.
Personal protective equipment: see Section 8.
Waste treatment, disposal: see Section 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling:

Use only in well-ventilated areas. Fogging should be avoided. Keep containers closed when not in use. Employees should be made aware of the corrosive effects of the acidic mixture. Avoid inhalation, contact with skin and eyes, ingestion and ingestion of the spray. Immediate eye rinsing and showering after accidental contact is necessary.

7.2 Conditions for safe storage, including any incompatibilities:

Ensure adequate ventilation. An acid-proof floor is required.
Store in a dry, cool, moisture-free place.
Keep out of reach of children and away from food.
Incompatible materials: Bases.
Suitable storage materials: *Orthophosphoric acid data*: stainless steel, high-density polyethylene, glass.

7.3 Specific end use(s): Maintenance for consumer, professional and industrial use.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters:

The permitted average concentrations and permitted peak concentrations of dangerous substances in the air at the workplace and their characteristic properties according to Decree No. 5/2020 (II. 6.) ITM on the Protection of the Health and Safety of Workers from the Risks Related to Chemical Pathological Factors (Hungary):

Substance	CAS Number	ÁK-value mg/m^3	CK-value mg/m^3	Characteristics	Reference	ÁK correction group
Orthphfosphoric acid	7664-38-2	1	2	m	EU1	N

N Irritants, simple asphyxiants, low health hazards
substances. Correction is NOT necessary.
m corrosive substance that scrapes the skin, mucous membranes, eyes or all three.
EU1 Value published in Directive 2000/39/EC
ÁK-value Permitted average concentration.
CK-value Permitted peak concentration.
CAS number Chemical Abstracts Service registration number used to identify chemical substances.

DNELs: No data available for the mixture.
Orthophosphoric acid data:
Worker: Long-term, local effects, inhalation: 2.92 mg/m3
Consumer: Long-term, local effects, inhalation: 0.73 mg/m3

Predicted No-Effect Concentration (PNEC): No data available for the mixture.
Citric acid monohydrate data:

Fresh water	0,44 mg/l
Sea water	0,044 mg/l
Wastewater treatment plant	>1000 mg/l
Sediment (Fresh water)	34,6 mg/kg
Sediment (Sea water)	3,46 mg/kg
Soil	33,1 mg/kg

8.2 Exposure controls:

According to ITM Decree No.5/2020 (6.II.): "In the case of dangerous substances not regulated by limit values, the employer shall reduce the level of exposure to the lowest level that can be expected according to the state of scientific and technical knowledge, at which level the dangerous substance has no harmful effects on health."

Appropriate engineering controls:

The product should be used in a well-ventilated area.

Individual protection measures, such as personal protective equipment:

a) Eye protection: Wear eye/face protection if there is a risk of eye contact with the mixture (EN 166).
b) Hand and skin protection: Protective gloves (EN 374)
Butyl rubber, polychloroprene, PVC: penetration time: ≥8 hours, thickness: 0,5 mm
Nitrile rubber: penetration time: ≥8 hours, thickness: 0,35 mm
Fluorinated rubber: penetration time: ≥8 hours, thickness: 0,4 mm
Wearing of acid-proof protective clothing is required in case of direct contact or splashing splashing or spillage may occur.
c) Respiratory protection: Adequate non-sparking ventilation (general ventilation, local exhaust ventilation) is required.
Where exposure above the permissible exposure limit may occur in the workplace, respiratory protection should be used.
Orthophosphoric acid data: Filter type: combined filter: B-P2.
Other precautions: keep away from food, drink and animal feed. Wash hands after working hours and before breaks.

Environmental exposure controls:

Product and its waste must be prevented from entering living water, soil and drains. Local, national and waste water regulations must be fulfilled.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties:

a)	Physical State:	Liquid
b)	Colour:	Colourless
c)	Odour:	characteristic
	odour threshold	No data available.

d)	Melting point/freezing point	No data available. *Orthophosphoric acid data:* 41,1°C
e)	Boiling point or initial boiling point and boiling range	No data available. *Orthophosphoric acid data:* 296,5°C
f)	Flammability	No data available.
g)	Lower and upper explosion limit	No data available.
h)	Flash point	No data available.
i)	Auto-ignition temperature	No data available.
j)	Decomposition temperature	No data available.
k)	pH	3-5. *Orthophosphoric acid data:* <1 (20°C) *Citric acid monohydrate data*: 1,7 (23 g/l, 20°C)
l)	Kinematic viscosity	No data available. *Orthophosphoric acid data:* 600 mPa s (20°C) dynamic
m)	Solubility	Miscible with water.
n)	Partition coefficient n-octanol/water (log value)	No data available.
o)	Vapour pressure	No data available. *Orthophosphoric acid data:* 0,04 hPa
p)	Density and/or relative density	ca. 1,2 g/cm3 (20°C). *Orthophosphoric acid data:* 1,84 *Citric acid monohydrate data*: 1,665
q)	Relative vapour density (20°C)	No data available.
r)	Particle characteristics	No data available.

9.2 Other information:
Orthophosphoric acid data: Corrosive to metals. No further data are available on the physical and chemical properties of the mixture.

SECTION 10: Stability and reactivity

10.1 Reactivity: No data available.

10.2 Chemical stability: Stable under normal use.

10.3 Possibility of hazardous reactions: No data available.
Orthophosphoric acid data: reacts with metals to form hydrogen. Reacts with alkaline metals to liberate heat.

10.4 Conditions to avoid: Keep away from heat and sources of ignition.
Orthophosphoric acid data: Decomposition temperature: 213°C.

10.5 Incompatible materials: Oxidizing agents, bases.

10.6. Hazardous decomposition products: In case of fire, phosphorus oxides (phosphine), corrosive vapours may be released.

SECTION 11: Toxicological information

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

- Acute toxicity: Based on available data, the classification criteria are not met.
  Orthophosphoric acid
  LD50: 2600 mg/kg (oral, rat, female) OECD 423
  LD50: 2740 mg/kg (dermal, rabbit))
  Ingestion: Severe bite wounds in the mouth, throat, and persistence in the oesophagus and stomach perforation of the gullet and throat.
  Inhalation: May cause irritation to the respiratory tract, in severe cases to the mucous membranes of the respiratory tract
  In severe cases, may cause burns to the lining of the respiratory tract.
  Citric acid monohydrate:
  LD50: 5400 mg/kg (mouse, orally)
  LD50: >2000 mg/kg (mouse, dermal)
- Skin corrosion/irritation: Causes severe skin burns and eye damage.
- Serious eye damage/irritation: Causes severe skin burns and eye damage.
- 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:

Information on likely routes of exposure: Inhalation, dermal contact, eye contact. Ingestion unlikely.

SECTION 12: Ecological information

12.1 Toxicity: Do not discharge the mixture into living water, drains or soil.
Orthophosphoric acid:
LC50: 138 mg/l (Gambusia affinis, 96 hours)
LC50: 3-3.25 mg/l (Lepomis macrochirus, 96 hours)
EC50: >100 mg/l (Daphnia magna, 48 hours) OECD 202
NOEC: 100 mg/l (Desmodesmus subspicatus, 72 hours) OECD 201
ErC50: >100 mg/l (Desmodesmus subspicatus, 72 hours) OECD 201
EC50: 270 mg/l (activated sludge)
Citric acid monohydrate data:
LC50: 440 mg/l (fish, 48 hours) OECD 203
NOEC: 425 mg/l (algae)
LC50: 1535 mg/l (Daphnia) 24 hours

12.2 Persistence and degradability: No data available.
12.3 Bioaccumulative potential: No data available.
12.4 Mobility in soil: No data available.

12.5 Results of PBT and vPvB assessment: The product does not meet the criteria for PBT or vPvB substances.
12.6 Endocrine disrupting properties: No data available.
12.7 Other adverse effects: No data available.

SECTION 13: Disposal considerations

13.1 Waste treatment methods:

Disposal of the substance/mixture:
Disposal should be carried out in compliance with local regulations.
[Government Decree 225/2015 (VIII. 7.) on certain aspects of hazardous waste
(225 225 on detailed rules for certain activities involving hazardous waste, Hungarian legislation]
Disposal of contaminated packaging:
Disposal subject to local regulations.
[Government Decree 442/2012 (XII. 29.) on packaging and packaging waste
waste management activities related to packaging and packaging waste, Hungarian legislation]
Waste identification code: 06 01 06* other acid
This product is assigned to the appropriate waste identification major group, subgroup and each depends on the use of the material.
Waste from the generating source may be classified in several different main groups according to the characteristics of the waste, taking into account the relevant regulations. [Decree 72/2013 (VIII. 27.) VM on the list of waste, Hungarian legislation]

SECTION 14: Transport information

14.1 UN number or ID number: UN 3264
14.2 UN proper shipping name: CORROSIVE LIQUID, ACIDIC, INORGANIC, N.O.S. (Orthophosphoric acid)
14.3 Transport hazard class(es):
Class: 8
Classification code: C1
Labels: 8
Transport category (Tunnel restriction code): 1 (E)
Limited quantities and excepted quantities: 0 E0
14.4 Packing group: I.
14.5 Environmental hazards: not relevant.
14.6 Special precautions for user: not relevant.
14.7 Maritime transport in bulk according to IMO instruments: not relevant.

SECTION 15: Regulatory information

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

Chemical safety:

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)

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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC

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 (CLP)

Act No. XXV. of 2000 on Chemical Safety (Hungarian legislation)

Decree No. 44/2000 (XII.27.) EüM on the detailed rules for certain procedures and activities related to dangerous substances and dangerous preparations (Hungarian legislation)

Health and safety:

Decree No. 3/2002 (II.08.) SzCsM-EüM concerning the minimum safety and health requirements of workplaces (Hungarian legislation)

Act No. XCIII. of 1993 on occupational safety (Hungarian legislation)

Decree No. 65/1999 (XII. 22.) EüM on the minimal safety and health protection requirements regarding the utilization of individual protection tools by workers at the workplaces (Hungarian legislation)

Decree No. 5/2020 (II. 6.) ITM on the Protection of the Health and Safety of Workers from the Risks Related to Chemical Pathological Factors (Hungarian legislation)

Fire safety:

Decree No. 54/2014 (XII. 5.) BM on the National Fire Safety Codes (Hungarian legislation)

Act No. XXXI. of 1996 on fire prevention, technical rescue and the fire department (Hungarian legislation)

Waste management:

Act No. CLXXXV. of 2012 on Waste (Hungarian legislation)

Governmental Decree No. 225/2015 (VIII. 7.) on detailed rules of certain activities related to hazardous waste. (Hungarian legislation)

Governmental Decree No. 442/2012 (XII. 29.) on packaging and on waste management activities related to packaging waste (Hungarian legislation)

Decree No. 72/2013 (VIII. 27.) VM concerning the list of wastes (Hungarian legislation)

Transport:

Decree No. 61/2013 (X. 17.) NFM on the domestic application of Annexes A and B to the European Agreement Concerning the International Carriage of Dangerous Goods by Road (ADR), (Hungarian legislation)

Other:

REGULATION (EC) No 648/2004 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 31 March 2004 on detergents

15.2. Chemical safety assessment: No data available.

SECTION 16: Other information

a) This document is the first English version of the safety data sheet of the product. The English translation was based on version 7 of the Hungarian safety data sheet of the product dated 28. 10. 2022.

b) Explanation of abbreviations and acronyms used in the safety data sheet:
PBT substances: Persistent, Bioaccumulative and Toxic substances.
vPvB substances: very Persistent and very Bio-accumulative substances.
LD50: The amount of a dose, given all at once, which causes the death of 50% of a group of test animals (Lethal Dose).
LC50: The amount of a concentration, given all at once, which causes the death of 50% of a group of test animals (Lethal Concentration).
ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
IMO: International Maritime Organization.
RID: Regulations concerning the International Carriage of Dangerous Goods by Rail.
ICAO: International Civil Aviation Organization.

c) The hazard classification was carried out by the supplier according to the 1272/2008/EC, based on calculation method.

d) The full text of the H sentences in Section 3 of the safety data sheet:

H314 Causes severe skin burns and eye damage.
H319 Causes serious eye irritation.

e) Hazard classes:

Skin Corr 1B	Skin corrosion/irritation, Category 1B
Eye Irrit. 2	Serious eye damage/eye irritation, Category 2

The safety data sheet has been prepared in accordance with the applicable EU and Hungarian legislation in force. It is limited to our current knowledge, does not guarantee the properties of the product and does not form the basis of any legal relationship.