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

1.1 Product identifier: RO 55 Rust remover and converter

Form of product: mixture

Product group: Mixture intended for consumer use

Product category / EuPCS code: PC-TEC-12/22 – Metal coating preparations / Industrial surface treatment products

Product identifier: **UFI 8CMT-GKK6-KP7C-FCC3**

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

Scope of use: Suitable for removing layers of rust from metal surfaces. Removes rust, degreases and passivates. For industrial and professional use

Uses advised against: do not use the product on aluminium, limestone, marble, enamelled or damaged chrome surfaces.

1.3 Details of the supplier of the Material Safety Data Sheet

Manufacturer, distributor: CLAUDIA CHEMICAL Kft.

Address: 9700 Szombathely, Alkotás u. 43-45

Telephone: +36-94-505-645

Mobile: +36-30-552-4209

Email, Internet: chemical@claudiart.hu; www.claudiart.hu

1.4 Emergency telephone number

Health Toxicological Information Service (ETTSZ)

+36 80 201 199 (24-hour toll-free number – only from within Hungary)

+36 1 476 6464 (24-hour number, regular charges apply – from outside Hungary)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Identification of product: Mixture

Product classification in accordance with Regulation (EC) 1272/2008:

Skin irritation Category 2

Eye irritation Category 2

H315 Causes skin irritation

H319 Causes serious eye irritation

Most important undesirable effects:

Causes irritation to the respiratory tract.

Causes irritation to eyes, skin.

Strongly acidic solution. Reacts strongly with alkali.

Note: there are **special limit values** for phosphoric acid.

For the complete list of H and P statements on mixtures, see Section 2.2.

2.2 Label elements

Hazard pictogram:

GHS 07
Signal word: **Warning!**
Hazard Statement:
H315 Causes skin irritation
H319 Causes serious eye irritation

Precautionary statements:
Prevention:
P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of the reach of children.
P280 Wear protective gloves/protective clothing/eye protection/face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
Storage / disposal as waste:
P501 Dispose of contents/container as waste: in accordance with Government Decree 225/2015. (VIII.7.) and the Ministerial Decree VM 72/2013 (VIII. 27.)

2.3 Other hazards

The PBT (persistent, bioaccumulative and toxic) or the vPvB (very persistent and very bioaccumulative) substance criteria within the meaning of Annex XIII to the REACH Regulation do not apply to inorganic substances. Phosphoric acid is not identified as a PBT and vPvB substance.
Endocrine effects: The mixture does not contain any substances toxic to endocrine organs, which are included in the list established in accordance with Article 59 (1).

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Hazardous components	Identification markings	Concentration	Hazard class and category, H statement
Phosphoric acid*	CAS number: 7664-38-2 EU-number: 231-633-2 EC No: 01-2119485924-24	17-20 m/m%	Skin Corr 1B, H314

*The above hazard classification and H statements apply to uncompounded substances, the hazard category of the product is included in SECTION 2, because there are special limit values for phosphoric acid.
Other relevant components: Cationic surfactant mixture of less than 0.1% m/m weight. Other components in in the product do not reach the statutory limit value, therefore they do not have to be considered for product classification.
Chemical properties: aqueous solution of phosphoric acid

SECTION 4. First aid measures

4.1 Description of first aid measures

If in eyes: Rinse eyes with plenty of water for at least 15 minutes; during rinsing keep eyelids open (avoid strong water flow to avoid mechanic damage to the cornea). After rinsing place sterile, medication-free dressing on the eye, give the victim pain-killer. Do not use a chemical neutralizer, because the heat generated during the reaction may worsen damage. Get medical advice/attention.

If on skin: remove the acid by rinsing the area with plenty of water for at least 15 minutes. Never use soap or a neutralizing agent. If on clothing: remove victim's clothing under running water, apply sterile dressing to skin burns. Get medical advice/attention.

If inhaled vapour: remove victim from the area contaminated with acid vapours, rest the person in a half lying or reclining position (motionlessness). Physical activity may cause pulmonary oedema. Protect victim from heat loss, administer oxygen if breathing is difficult, preferably using a breathing mask. Get medical advice/attention.

If swallowed: do not induce gastric lavage, and never give victim emetic agents and neutralisation (alkalizing) agent. DO NOT induce vomiting. Apart from giving victim a few glasses or water or milk, do not administer anything orally. Never give an unconscious victim anything orally. Seek medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed

After eye contact: pain, burning sensation, tears, extreme light sensibility, conjunctival congestion and oedema, damage to cornea.

After skin contact: acute pain, brown or yellow discolouring of tissue.

If inhaled vapour: cough, choking, headache, dizziness, feeling of weakness, and, after a latent period of 6-8 hours, pulmonary oedema with feeling of tight chest, difficulty breathing, dizziness, frothy sputum and cyanosis. In addition, wheezing, low blood pressure and fast heart rate may occur.

After swallowing: acute, burning sensation in the mouth, throat and the stomach, followed by vomiting containing dark, coagulated blood and diarrhoea. Blood pressure drops sharply. Brown or yellow discolouring in the oral cavity and in the surrounding area. The glottis oedema may cause difficulty breathing or hypoxia.

4.3 Indication of any immediate medical attention and special treatment needed
After carefully assessing the condition of the victim, the physician/doctor makes decision about further treatment.

SECTION 5: Firefighting measures

5.1 Extinguishing media
Suitable extinguishing media:
The product itself is not combustible. An extinguishing media appropriate for the surroundings can be used.
Unsuitable extinguishing media: No information.

5.2 Special hazards assigned to the substances or mixtures
When it gets in contact with well-known metals, flammable hydrogen is formed, which can form an explosive mixture with air. Toxic degradation products, phosphoric-oxides (PO_x) may be formed at high temperatures; the concentration of the PO_x and hydrogen must continuously be monitored. When the hot acid reacts with contaminated metals, gaseous phosphine (PH_3) may be formed.

5.3 Recommendation for firefighters
Keep containers and equipment cool with water spray. Keep extinguishing media mixed with the phosphoric acid away from surface and/or ground water. Special protective equipment: self-contained breathing apparatus, overalls to protect those involved in a rescue operation from the hazardous effects of fire.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
6.1.1 For non-emergency personnel
In the event of a serious accident, every person not directly involved in the rescue operations must be removed from the emergency area (downwind).
Avoid eye and skin contact.
6.1.2 For emergency responders
Local authorities, the police, the chemical rescue service and the roads department must be informed, further damage must be prevented, and, if this gives rise to far too severe damage hazards, you have to wait for specialists to arrive. Persons involved in a rescue operation must wear protective clothing, and protective masks to protect their airways. Avoid contact with skin and eyes. It is forbidden to inhale vapours.

6.2 Environmental precautions
In the event of small spills, spillage must be contained by bunding (as much as possible). The product must not be discharged into drains, waters or the soil. If the product contaminates a river, lake or the drains, the competent authorities must be informed. Avoid leaks into the soil. If the substance comes in contact with the soil (spills), the responsible authorities must be informed about this.

6.3 Methods and materials for containment and cleaning up
6.3.1 Spillages must be soaked up using absorbent material (e.g. sand, soil, sawdust, perlite). Spillages must be collected in acid-resistant containers.
6.3.2 Must be forwarded for neutralisation. The area in question must be cleaned up. To reduce the harm, spillages must be neutralised with diluted NAOH solutions or Na_2CO_3, lime. Spillages soaked up must be handled as hazardous waste.

6.4 Reference to other sections
Please find information on disposal in SECTION 13. For information on personal protective measures, see SECTION 8. For information on the person to be notified in the event of an emergency, see SECTION 1.

SECTION 7. Handling and storage

7.1 Precautions for safe handling
7.1.1 Safety precautions regarding chemical substances must be observed. Keep storage container closed. Use personal protective gear. Avoid skin and eye contact. Do not inhale vapours or mist sprays. In the event of contact, rinse eyes and shower immediately, and remove clothing. Do NOT mix with other chemical substances!
7.1.2 Keep away from food, drink and animal foodstuffs. Do not eat, drink or smoke when using this product. Wash your hands after use. Take off all contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities
Keep away from freezing, heat and alkali.
The product should be stored in the original container that can be closed tight.
Incompatible with bases, alkali substances.
Keep away from food, drink and animal foodstuffs.

7.3 Specific end use(s)
The product is suitable for removing rust, and passivating surfaces. It is advisable to remove thick layers of rust mechanically. The end point of the treatment period is indicated by the change of colour of the surface. If the pace of rust removal drops significantly, it is necessary to re-apply the product. The rust-remover should be removed before further surface treatment.

Bathing method:
The material of the tank may be plastic, glass or acid resistant steel. During treatment the rust-removing liquid should have direct contact, which may be facilitated by moving the object. If a large amount of liquid is required, the product may be diluted two- or three-fold upon increasing treatment time.

Brushing method:

Use it in the case of objects with a large surface. As the surface is drying, it is necessary to continuously re-apply the rust-remover.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Air concentration limit value permissible at the place of work:
Phosphoric acid: (CAS: 7664-38-2)
Occupational exposure limit value, AC:
Time weighted average of concentration (TWA): 1 mg/m^3;
Occupational exposure limit value peak concentration (Cmax): Short-term exposure limit (STEL) 2 mg/m^3
Derived No-Effect Level (DNEL):

Employees, long lasting - local effects. Inhalation	1 mg/m^3
Employees, acute – local effects. Inhalation	2 mg/m^3
Employees, acute – systemic effects. Inhalation	10.7 mg/m^3
Consumers, long lasting - local effects. Inhalation	0.36 mg/m^3
Consumers, long lasting - systemic effects. Inhalation	4.57 mg/m^3
Consumers, long lasting - systemic effects.	0.1 mg/m^3.

If on skin.
Consumers, long lasting - local effects. Inhalation: 0.73 mg/m^3.
Directive 80/1107/EEC on the protection of workers from the risks related to exposure to chemical, physical and biological agents at work, as amended.
Time weighted average (TWA) - 1 mg/m^3 - Indicative

8.2 Exposure protection

8.2.1 Appropriate technical inspection
For precautionary measures, see SECTIONS 7 and 8.8.2.2 Individual protection measures, such as personal protective equipment.
Personal protective equipment:
Individual protection measures, such as personal protective equipment. The individual protection measures must meet the requirements of the Decree of the Minister for Economic Affairs on the basic requirements of individual protection measures of 29 December 2005 (Legal Gazette 259.2173).

General hygiene and protection measures:
When using the product, users should familiarize themselves with its possible harmful effects on human health, and the occupational safety requirements of its use. Work with caution to prevent the mixture from spilling, getting in contact with skin or eyes, its vapours being inhaled.
Safety precautions regarding chemical substances must be observed.
Keep away from food, drink and animal foodstuffs.
After work wash face and hands thoroughly. Take off all contaminated clothing immediately.

Respiratory protection:
In the working area, proper ventilation needs to be ensured.
It is advisable to wear face-shield with forehead protection.

Hand protection:
Wear protective gloves.
Material: butyl rubber, PVC, nitrile rubber (EN 374)
Breakthrough time: >= 8 hours
Eye protection:
Tight-fitting safety goggles.
Advice on skin and body protection:
Protective chemical resistant clothing.
Advice on environmental exposure controls:
Must not be discharged into soil, waters and drains.
Must not be discharged into sewage system and wastewater reservoirs without dilution and neutralisation.
Substance recommended for neutralisation: hydrated lime, soda (sodium carbonate).
Other information:
Protective equipment should always be selected and used in accordance with the given, individual circumstances. It is essential that the product is used by properly trained persons who have basic chemistry knowledge, and that such persons also take preventive measures, precaution.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties
State of matter: Liquid
Colour: pale blue
Odour: Slightly acidic
Odour limit: no data available
pH (MSZ 448-22-1985) < 2
Relative density: 1.09 g/cm^3 (at 20 °C)
Evaporation speed: no data available
Solubility in water: Soluble without limit.
In other solvents: insoluble
Flammability: not flammable
Spontaneous ignition: not applicable
Explosive properties: not explosive

9.2 Other information
No data available

SECTION 10: Stability and reactivity

10.1 Reactivity
At ambient temperatures phosphoric acid is stable and has low chemical activity, does not oxidize.

10.2 Chemical stability
Phosphoric acid resists strong reducing agents at ambient temperatures or up to 50 - 400 ºC, and is reduced easily over 400 ºC.

10.3 Possibility of hazardous reactions
When it gets in contact with well-known metals, flammable hydrogen is formed, which can form an explosive mixture with air.

10.4 Conditions to avoid
Strong thermal stress that affects the effect of the inhibitors in the mixture.
Freeze impact that reduces the efficiency of the mixture, slows chemical reactions down.
High temperature, hot acid coming into contact with metals.

10.5 Incompatible materials
Alkali, metals, alloys that can lead to the formation of hydrogen when they get in contact with the mixture, which may form an explosive mixture when in contact with air.

10.6 Hazardous decomposition products
Not known when used as intended. Toxic acid mists if heated to high temperatures, PO_x discharge. When the hot acid reacts with contaminated metals, gaseous phosphine (PH_3) may be formed.

SECTION 11: Toxicological information

11.1 Information on toxicological effects
(Phosphoric acid: CAS: 7664-38-2)
Acute toxicity:
Oral LD50: 2600 mg/kg body weight.
Rat LD50: In the case of SPF-Wister rat 1.70 ml/100 g body weight using a 10% solution of 75.4% ternary phosphoric acid (in accordance with the OECD testing guideline 423).
Inhalation: reliable data not available.
Skin corrosion/irritation:
0.5 ml 80% phosphoric acid solution has a corrosive effect on rabbit skin after 24-hour exposure.
Serious eye damage/irritation:
There is no reliable data to confirm permanent eye irritation. The substance irritates skin, which means that it can be classified as corrosive also to the eye.
Reproduction toxicity:
Animal tests did not show any effects on reproduction.
Carcinogenicity:
Not classified as a carcinogen.
Mutagenic effect:
In vitro tests did not show any mutagenic effects.
Teratogenicity:
Animal tests did not show any teratogenic effects.
Aspiration hazard:
Not applicable
Symptoms related to the physical, chemical and toxicological characteristics:
If on skin: irritation, burning sensation
If in eyes: conjunctivitis, burning sensation
If swallowed: burning sensation, strong pain, possibility of perforation, shock, cramps

11.2. Information on other hazards
The mixture does not contain substances with endocrine-disrupting properties in accordance with the criteria laid down in Commission Delegated Regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605.

SECTION 12: Ecological information

12.1 Toxicity
Phosphor is a biogenic substance which restricts the growth intensity of algae in surface waters and in coastal seawater. The concentration of phosphor in surface waters determines the trophic levels of the water (formation of organic material via photosynthesis, which is the intensity of the formation of algae, blue-green algae and higher forms of green plant). The more phosphate infiltrates the recipient water, the higher the danger of the eutrophication of the water (excessive surface plant growth). An increased concentration of phosphor improves the growth not only of algae but also of bacteria.
Acute toxicity: (Phosphoric acid: CAS: 7664-38-2)
Fish: LC50 3 – 3.25 mg/l (Lepomis; 96 hrs)
Toxicity towards daphnids and other aquatic invertebrate
EC50 >100 mg/l (Daphnia magma (giant water flea): 48 hrs) (Immobilisation Test; OECD testing guideline 202)
Algae:
EC50 > 100 mg/l (Desmodesmus subspicatus; 72 hrs (Immobilisation Test; End point: Growth Inhibition Test; OECD testing guideline 201)
Bacteria:
EC50 > 1.000 mg/l (activated sludge; 3 hrs) (OECD testing guideline 209)

12.2 Persistence and degradability
Inorganic product, cannot be neutralised in water with biological methods.

12.3 Bioaccumulative potential
Not relevant

12.4 Mobility in soil
The product is well soluble in water.

12.5 Results of PBT and vPvB assessment
Not applicable

12.6. Endocrine disrupting properties
The product does not contain any substance with endocrine disrupting properties at concentrations of 0.1% or more.

12.7. Other adverse effects

Heavy metal content: None.
PCB, PCT and chlorinated CH: None.
Effect on the environment: If spilled in large quantity, the substance can be harmful for the environment, as it forms a film on the water surface, causing impaired oxygen transfer.
Water hazard class (German): WGK 1 (as per AwSV)

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Recommendations regarding the product:
In the event of waste treatment, the provisions of the Government Decree 22/2015 (VIII.7.) and the ministerial decree VM 72/2013. (VIII.27.) are applicable.
Apart from its intended use as prescribed, it is forbidden to discharge the product in the drains and the sewage system. The substance and the packaging containing residuals must be taken to a hazardous waste collection facility. The substance, its unused residuals and packaging must not be discharged into waters, the soil and public sewer system.
Empty containers must not be used for any other purpose. Completely empty, cleaned plastic bottles may be disposed of in the communal selective waste containers. In the event of larger quantities, the applicable laws shall apply.

SECTION 14: Transport information

14.1 UN number

Not relevant

14.2 UN proper shipping name

Not relevant

14.3 Transport hazard class(es)

Not relevant

14.4 Packing group

Not relevant

14.5 Environmental hazards

Not relevant

14.6 Special precautions for user

Not relevant

14.7 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

Regulation (EU) 2019/1021/EU (on substances that deplete the ozone layer): not subject to Regulation
Regulation (EC) 1005/2009/EK (on persistent organic pollutants): not subject to Regulation
ministerial decree ITM 5/2020 (II. 6.) on the protection of the health and safety of workers exposed to chemical risks

REACH Regulation (EC) 1907/2006 and its amendments ((EC) 987/2008; (EC) 134/2009; (EC) 552/2009; (EU) 453/20010; (EU) 2015/830), and

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)

CLP Regulation: (EC) 1272/2008

15.2 Chemical safety assessment

No chemical safety assessment was made regarding the product.

SECTION 16: Other information

Content of the P and H statements in this Safety Data Sheet:
H314 Causes severe skin burns and eye damage.
H315 Causes skin irritation
H319 Causes serious eye irritation

P101 If medical advice is needed, have product container or label at hand.
P102 Keep out of the reach of children.
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): Remove/Take off immediately all contaminated clothing. Rinse skin with water/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.
P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P363 Wash contaminated clothing before reuse.
P405 Store locked up.
P501 Dispose of contents/container as waste: in accordance with Government Decree 225/2015. (VIII.7.) and the Ministerial Decree VM 72/2013 (VIII. 27.)

Abbreviations and acronyms

ÁK/AC	occupational exposure limit
CAS	Chemical Abstracts Service
CLP	classification, labelling, packaging

CMR	carcinogenic, mutagenic or toxic to reproduction
DNEL	Derived no-effect level
EINECS	European Inventory of Existing Commercial Chemical Substances
EINECS	European List of Notified Substances
GHS	Globally Harmonized System of Classification and Labelling of Chemicals harmonized system
LC50	lethal concentration
NOAEC	no observed adverse effect concentration
NOAEL	no observed adverse effect level
NOEC	no observed effect concentration
OECD	Organisation for Economic Co-operation and Development
OEL	occupational exposure limit
PBT	persistent, bioaccumulative and toxic
REACH Auth. No	REACH Authorisation Number
PNEC	predicted no-effect concentration
PVC	polyvinyl chloride
STEL	short-term exposure limit
TWA	time weighted average
vPvB	very persistent and very bioaccumulative

The above information is based on the best of our knowledge, and their purpose is to describe the product from the point of view of health and safety requirements. The data do not constitute any guarantee regarding the application properties of the product. The data sheet does not exempt the user from knowing and observing other requirements regulating its activities. Users are advised about the risks arising from using the product for unintended purposes.

Revision indicators:

Version 7: preparation of Safety Data Sheet in accordance with Regulation (EC) 1907/2006 - REACH
Version 8: addition of the S statement S46 to the Safety Data Sheet
Version 9: preparation of Safety Data Sheet in accordance with Regulation (EU) 453/2010
Version 10: preparation of Data Sheet in accordance with Regulation (EU) 2015/830/EU
Version 11: revision of the Safety Data Sheet in accordance with Commission Regulation (EU) 2017/542
Version 12: revision of the Safety Data Sheet in accordance with Commission Regulation (EU) 2017/542, sections amended: 1, 2, 3, 7, 13, 15 and 16
Version 13: Section 15.1: updated legal references
Version 14: Section 12.6: introduction of endocrine disruption hazard class