

## Safety Data Sheet

according to UK REACH Regulation

### MORPHISTO rapid descaler

Revision date: 30.08.2023

Product code: 15378.xxxxx

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

##### 1.1. Product identifier

MORPHISTO rapid descaler

UFI: GKSJ-S55V-A9FG-0GDG

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

###### Use of the substance/mixture

Industrial use

###### Uses advised against

Any non-intended use.

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

Company name: MORPHISTO GmbH  
Street: Schumannstr. 142/144  
Place: D-63069 Offenbach  
Telephone: +49 (0) 69 / 400 3019-60      Telefax: +49 (0) 69 / 400 3019-64  
E-mail: info@morphisto.de  
Contact person: Morphisto GmbH  
E-mail: gefahrstoffmanagement@morphisto.de  
Internet: http://www.morphisto.de

##### 1.4. Emergency telephone number:

Poison Information Center Mainz, Germany, Tel: +49(0)6131/19240

#### SECTION 2: Hazards identification

##### 2.1. Classification of the substance or mixture

###### GB CLP Regulation

Met. Corr. 1; H290  
Skin Corr. 1; H314  
Eye Dam. 1; H318  
STOT SE 3; H335

Full text of hazard statements: see SECTION 16.

##### 2.2. Label elements

###### GB CLP Regulation

###### Hazard components for labelling

hydrochloric acid %  
phosphoric acid

Signal word: Danger

###### Pictograms:



###### Hazard statements

H290 May be corrosive to metals.  
H314 Causes severe skin burns and eye damage.  
H335 May cause respiratory irritation.

###### Precautionary statements

P234 Keep only in original packaging.  
P260 Do not breathe mist/vapours/spray.

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P280	Wear protective gloves/protective clothing/eye protection/face protection.
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.

#### Labelling of packages where the contents do not exceed 125 ml

Signal word: Danger

Pictograms:



#### Hazard statements

H314

#### Precautionary statements

P260-P280-P303+P361+P353-P305+P351+P338-P310

#### 2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulating and toxic (PBT) or very persistent and very bioaccumulating (vPvB) at levels of 0.1% or higher. Ecological information: The substance/mixture does not contain any components that are considered to be hazardous according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in amounts of 0.1 % or more have endocrine disrupting properties. Toxicological information: The substance/mixture does not contain any components that are to be classified according to REACH Article 57(f) or Commission Delegated Regulation (EU) 2017/2100 or Commission Delegated Regulation (EU) 2018/605 in quantities of 0.1 % or more have endocrine disrupting properties.

### SECTION 3: Composition/information on ingredients

#### 3.2. Mixtures

##### Hazardous components

CAS No	Chemical name			Quantity
	EC No	Index No	REACH No	
	Classification (GB CLP Regulation)			
7647-01-0	hydrochloric acid %			20 - < 25 %
	231-595-7	017-002-01-X	01-2119484862-27	
	Met. Corr. 1, Skin Corr. 1B, Eye Dam. 1, STOT SE 3; H290 H314 H318 H335			
7664-38-2	phosphoric acid			1 - < 5 %
	231-633-2	015-011-00-6	01-2119485924-24	
	Met. Corr. 1, Acute Tox. 4, Skin Corr. 1B, Eye Dam. 1; H290 H302 H314 H318			
64-18-6	formic acid %			< 1 %
	200-579-1	607-001-00-0	01-2119491174-37	
	Flam. Liq. 3, Acute Tox. 3, Acute Tox. 4, Skin Corr. 1A, Eye Dam. 1; H226 H331 H302 H314 H318			

Full text of H and EUH statements: see section 16.

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#### Specific Conc. Limits, M-factors and ATE

CAS No	EC No	Chemical name	Quantity
		Specific Conc. Limits, M-factors and ATE	
7647-01-0	231-595-7	hydrochloric acid %	20 - < 25 %
		Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Irrit. 2; H319: >= 10 - < 25 STOT SE 3; H335: >= 10 - 100	
7664-38-2	231-633-2	phosphoric acid	1 - < 5 %
		dermal: LD50 = 2740 mg/kg; oral: LD50 = 1530 mg/kg Skin Corr. 1B; H314: >= 25 - 100 Skin Irrit. 2; H315: >= 10 - < 25 Eye Dam. 1; H318: >= 25 - 100 Eye Irrit. 2; H319: >= 10 - < 25	
64-18-6	200-579-1	formic acid %	< 1 %
		inhalation: LC50 = 7,85 mg/l (vapours); inhalation: ATE = 0,5 mg/l (dusts or mists); oral: LD50 = 730 mg/kg Skin Corr. 1A; H314: >= 90 - 100 Skin Corr. 1B; H314: >= 10 - < 90 Skin Irrit. 2; H315: >= 2 - < 10 Eye Irrit. 2; H319: >= 2 - < 10	

#### Further Information

This product contains no substances of very high concern (SVHC) (>0,1%) which are included in the Candidate List according to Article 59 of REACH.

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

#### General information

First aider: Pay attention to self-protection! Remove affected person from the danger area and lay down. Take off immediately all contaminated clothing. To supervise the blood circulation. In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

#### After inhalation

Provide fresh air. Medical treatment necessary. Remove casualty to fresh air and keep warm and at rest.

#### After contact with skin

After contact with skin, wash immediately with plenty of water and soap. Take off immediately all contaminated clothing and wash it before reuse. If skin irritation occurs: Get medical advice/attention. Call a physician in any case! Immediate medical treatment required because corrosive injuries that are not treated are hard to cure.

#### After contact with eyes

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist. Rinse cautiously with water for several minutes. Call a physician in any case!

#### After ingestion

Observe risk of aspiration if vomiting occurs. Rinse mouth immediately and drink 1 glass of water. Adverse human health effects and symptoms: Gastric perforation. Call a physician immediately. Do not allow a neutralisation agent to be drunk. Rinse mouth thoroughly with water. Let water be drunk in little sips (dilution effect). Do NOT induce vomiting.

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

After inhalation: cough, pain, shortness of breath and general respiratory problems, irritant effects, After ingestion: Gastrointestinal discomfort, vomiting, corrosivity, gastric perforation, After skin contact: Causes severe burns, Causes poorly healing wounds, After eye contact: Risk of serious eye damage, Risk of blindness.

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

Treat symptomatically.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

#### Suitable extinguishing media

Co-ordinate fire-fighting measures to the fire surroundings. Carbon dioxide (CO<sub>2</sub>). Dry extinguishing powder.

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alcohol resistant foam. Atomized water.

#### Unsuitable extinguishing media

High power water jet.

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

Non-flammable. In case of fire may be liberated: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).Hydrogen chloride (HCl). Methane.

#### 5.3. Advice for firefighters

Wear a self-contained breathing apparatus and chemical protective clothing. Full protection suit

#### Additional information

Suppress gases/vapours/mists with water spray jet. Collect contaminated fire extinguishing water separately.

Do not allow entering drains or surface water. Co-ordinate fire-fighting measures to the fire surroundings.

### SECTION 6: Accidental release measures

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

##### General advice

Provide adequate ventilation. Do not breathe gas/fumes/vapour/spray. Avoid contact with skin, eyes and clothes. Use personal protection equipment. Safe handling: see section 7

##### For non-emergency personnel

Provide fresh air. Clear danger zone. Follow emergency plan. Consult an expert.

##### For emergency responders

Move undamaged containers from immediate hazard area if it can be done safely. Stop leak if safe to do so. In case of fire: Stop and contain spill/release if it can be done safely. If this cannot be done, allow fire to burn under control.

#### 6.2. Environmental precautions

Do not allow to enter into surface water or drains. Discharge into the environment must be avoided. Clean contaminated objects and areas thoroughly observing environmental regulations.

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

##### For containment

Seal off the sewer. Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal.

##### For cleaning up

Absorb with liquid-binding material (sand, diatomaceous earth, acid- or universal binding agents). Treat the recovered material as prescribed in the section on waste disposal. Clean contaminated objects and areas thoroughly observing environmental regulations.

#### 6.4. Reference to other sections

Safe handling: see section 7

Personal protection equipment: see section 8

Disposal: see section 13

### SECTION 7: Handling and storage

#### 7.1. Precautions for safe handling

##### Advice on safe handling

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Process within closed systems. Wear suitable protective clothing. Always close containers tightly after the removal of product. Clear contaminated areas thoroughly.

##### Advice on protection against fire and explosion

Usual measures for fire prevention.

##### Advice on general occupational hygiene

Remove contaminated, saturated clothing immediately. Draw up and observe skin protection programme.

Wash hands and face before breaks and after work and take a shower if necessary. When using do not eat,

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drink, smoke, sniff. Wear suitable protective clothing. Street clothing should be stored separately from work clothing.

**Further information on handling**

General protection and hygiene measures: See section 8.

**7.2. Conditions for safe storage, including any incompatibilities**
**Requirements for storage rooms and vessels**

Keep container tightly closed. Keep locked up. Store in a place accessible by authorized persons only. Provide adequate ventilation as well as local exhaustion at critical locations. Unsuitable container/equipment material: Metal. Suitable material: acid-resistant. Keep the packing dry and well sealed to prevent contamination and absorption of humidity.

**Hints on joint storage**

Do not store together with: food and feed. pharmaceuticals. Infectious substances. Radioactive substances. Explosive substances. Oxidizing substances. Oxidizing liquids. Organic peroxides. Self-reactive substances and mixtures. Pyrophoric solids. Substances which in contact with water form flammable gases. Ammonium nitrate and preparations containing ammonium nitrate. Alkalis (alkalis).

**Further information on storage conditions**

Recommended storage temperature: 15-25 °C

Protect against: frost. UV-radiation/sunlight. heat. Humidity

**7.3. Specific end use(s)**

See section 1.

**SECTION 8: Exposure controls/personal protection**
**8.1. Control parameters**
**Exposure limits (EH40)**

CAS No	Substance	ppm	mg/m <sup>3</sup>	fibres/ml	Category	Origin
64-18-6	Formic acid	5	9.6		TWA (8 h)	WEL
7647-01-0	Hydrogen chloride (gas and aerosol mists)	1	2		TWA (8 h)	WEL
		5	8		STEL (15 min)	WEL
7664-38-2	Orthophosphoric acid	-	1		TWA (8 h)	WEL
		-	2		STEL (15 min)	WEL

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#### DNEL/DMEL values

CAS No	Substance	Exposure route	Effect	Value
7664-38-2	phosphoric acid			
Worker DNEL, long-term		inhalation	systemic	10,7 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	local	1 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	2 mg/m <sup>3</sup>
64-18-6	formic acid %			
Worker DNEL, acute		inhalation	systemic	19 mg/m <sup>3</sup>
Worker DNEL, acute		inhalation	local	19 mg/m <sup>3</sup>
Worker DNEL, long-term		inhalation	systemic	9,5 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	systemic	9,5 mg/m <sup>3</sup>
Consumer DNEL, acute		inhalation	local	9,5 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	systemic	3 mg/m <sup>3</sup>
Consumer DNEL, long-term		inhalation	local	3 mg/m <sup>3</sup>

#### PNEC values

CAS No	Substance	Value
64-18-6	formic acid %	
Freshwater		2 mg/l
Freshwater (intermittent releases)		1 mg/l
Marine water		0,2 mg/l
Marine water (intermittent releases)		1 mg/l
Marine sediment		1,34 mg/kg
Micro-organisms in sewage treatment plants (STP)		7,2 mg/l
Soil		1,5 mg/kg

#### 8.2. Exposure controls



##### Appropriate engineering controls

If handled uncovered, arrangements with local exhaust ventilation have to be used. Do not breathe gas/fumes/vapour/spray. Technical measures and the application of suitable work processes have priority over personal protection equipment. Process within closed systems. Provide adequate ventilation. Provide washing facilities at the workplace, provide an eye shower or eyewash bottle and mark them.

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

###### Eye/face protection

Suitable eye protection: goggles. Wear safety glasses; chemical goggles (if splashing is possible). EN 166

###### Hand protection

When handling with chemical substances, protective gloves must be worn with the CE-label including the four control digits. The quality of the protective gloves resistant to chemicals must be chosen as a function of the specific working place concentration and quantity of hazardous substances. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. Wear suitable gloves.

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Suitable material:

 FKM (fluororubber). - Thickness of glove material: 0,4 mm Breakthrough time  $\geq$  8 h

 Butyl rubber. - Thickness of glove material: 0,5 mm Breakthrough time  $\geq$  8 h

 CR (polychloroprenes, Chloroprene rubber). - Thickness of glove material: 0,5 mm Breakthrough time  $\geq$  8 h

 NBR (Nitrile rubber). - Thickness of glove material: 0,35 mm Breakthrough time  $\geq$  8 h

 PVC (Polyvinyl chloride). - Thickness of glove material: 0,5 mm Breakthrough time  $\geq$  8 h

Check leak tightness/impermeability prior to use.

#### Skin protection

Use of protective clothing. Suitable protective clothing: Lab apron. Material, acid-resistant.

Minimum standard for preventive measures while handling with working materials are specified in the TRGS 500 (D).

#### Respiratory protection

In case of inadequate ventilation wear respiratory protection. Respiratory protection necessary at:

-exceeding exposure limit values

-insufficient ventilation and aerosol or mist formation

Suitable respiratory protective equipment: gas filtering equipment (EN 141). Identification color: yellow.

The filter class must be suitable for the maximum contaminant concentration (gas/vapour/aerosol/particulates) that may arise when handling the product. If the concentration is exceeded, self-contained breathing apparatus must be used.

#### Environmental exposure controls

Do not allow uncontrolled discharge of product into the environment.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state:	liquid	
Colour:	slightly yellowish	
Odour:	characteristic	
Melting point/freezing point:		not determined
Boiling point or initial boiling point and boiling range:		not determined
Flammability:		not determined
Lower explosion limits:		not determined
Upper explosion limits:		not determined
Flash point:		not determined
Auto-ignition temperature:		not determined
Decomposition temperature:		not determined
pH-Value (at 20 °C):		1-2
Viscosity / kinematic:		not determined
Water solubility:		not determined
Solubility in other solvents		not determined
Partition coefficient n-octanol/water:		not determined
Vapour pressure:		not determined
Density (at 20 °C):		not determined
Relative vapour density:		not determined
Particle characteristics:		not applicable

### 9.2. Other information

#### Information with regard to physical hazard classes

Explosive properties

The product is not: Explosive. In vaporous/gaseous state: formation of explosive air/gas mixtures possible.

Sustaining combustion:

Not sustaining combustion

Self-ignition temperature

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Gas: not determined  
Oxidizing properties  
none

**Other safety characteristics**

Evaporation rate: not determined  
Solvent separation test: not determined  
Solid content: not determined  
Sublimation point: not determined  
Softening point: not determined  
Pour point: not determined  
Viscosity / dynamic: not determined  
Flow time: not determined

**SECTION 10: Stability and reactivity****10.1. Reactivity**

Corrosive to metals. Possibility of hazardous reactions. The products reacts acidic. Reacts with : Alkalis (alkalis).

**10.2. Chemical stability**

The product is chemically stable under recommended conditions of storage, use and temperature.

**10.3. Possibility of hazardous reactions**

Exothermic reaction with: Base, Peroxides, Oxidizing agent. Explosion risk in contact with: potassium Sodium. permanganates, e.g. potassium permanganate sulphuric acid The substance may react dangerously with: Aluminium. Fluorine. alkalines Oxidizing agents. Caesium carbide. Calcium carbide. Calcium hydride. Formaldehyde. Copper sulphide. Lithium silicide. Metals. Sodium hydride. Sodium hypochlorite and its solutions. Sodium hypochlorite. Rubidium carbide. Silanes. Silicon dioxide. Vinyl methyl ether. Zinc

**10.4. Conditions to avoid**

Protect against: UV-radiation/sunlight. heat.

**10.5. Incompatible materials**

Metal. Keep away from: Base, Oxidizing agent, Peroxides. Materials to avoid: Oxidizing agents, strong. Reducing agents, strong.

**10.6. Hazardous decomposition products**

Resulting from the use of the product: Chlorine. In case of fire may be liberated: Carbon monoxide. Carbon dioxide (CO<sub>2</sub>).Hydrogen chloride (HCl). Methane.

**SECTION 11: Toxicological information****11.1. Information on hazard classes as defined in GB CLP Regulation****Acute toxicity**

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

**ATEmix calculated**

ATE (oral) 67401 mg/kg; ATE (dermal) > 2000 mg/kg; ATE (inhalation vapour) 934,5 mg/l; ATE (inhalation dust/mist) 59,52 mg/l



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CAS No	Chemical name				
	Exposure route	Dose	Species	Source	Method
7664-38-2	phosphoric acid				
	oral	LD50 mg/kg 1530	Rat	SDS external	
	dermal	LD50 mg/kg 2740	Rabbit	SDS external	
64-18-6	formic acid %				
	oral	LD50 mg/kg 730	Rat	suppliers SDS.	
	inhalation (4 h) vapour	LC50 7,85 mg/l	Rat, male and female	suppliers SDS.	
	inhalation dust/mist	ATE 0,5 mg/l			

**Irritation and corrosivity**

Causes severe skin burns and eye damage. (On basis of test data)

Causes serious eye damage. (On basis of test data)

**Sensitising effects**

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

**Carcinogenic/mutagenic/toxic effects for reproduction**

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

**STOT-single exposure**

May cause respiratory irritation. (hydrochloric acid %)

**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**
**Endocrine disrupting properties**

This product does not contain a substance that has endocrine disrupting properties with respect to humans as no components meets the criteria.

**Other information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**SECTION 12: Ecological information**
**12.1. Toxicity**

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

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CAS No	Chemical name					
	Aquatic toxicity	Dose	[h]   [d]	Species	Source	Method
7647-01-0	hydrochloric acid %					
	Acute fish toxicity	LC50	862 mg/l	96 h	Leuciscus idus	
7664-38-2	phosphoric acid					
	Acute fish toxicity	LC50	138 mg/l	96 h	Gambusia affinis	ECHA
	Acute algae toxicity	ErC50 mg/l	>100	72 h	Algae	SDS external
	Acute crustacea toxicity	EC50 mg/l	>100	48 h	Aquatic invertebrates.	SDS external
	Acute bacteria toxicity	(EC50 mg/l)	>1000	3 h	soil dwelling microorganisms	SDS external
64-18-6	formic acid %					
	Acute fish toxicity	LC50	68 mg/l	96 h	Leuciscus idus (golden orfe)	IUCLID
	Acute algae toxicity	ErC50 mg/l	62,64	72 h	Selenastrum capricornutum	suppliers SDS.
	Acute crustacea toxicity	EC50 mg/l	32,19	48 h	Daphnia magna	IUCLID
	Crustacea toxicity	NOEC mg/l	>102	21 d	Daphnia magna (Big water flea)	suppliers SDS.
	Acute bacteria toxicity	(EC50 mg/l)	>1000	0,5 h	Activated sludge	

#### 12.2. Persistence and degradability

The product has not been tested.

CAS No	Chemical name			
	Method	Value	d	Source
	Evaluation			
64-18-6	formic acid %			
	Biodegradability	100 %	9	
	Readily biodegradable (according to OECD criteria).			

#### 12.3. Bioaccumulative potential

No indication of bioaccumulation potential.

#### Partition coefficient n-octanol/water

CAS No	Chemical name	Log Pow
64-18-6	formic acid %	-1,9

#### 12.4. Mobility in soil

The product has not been tested.

#### 12.5. Results of PBT and vPvB assessment

The substances in the mixture do not meet the PBT/vPvB criteria according to UK REACH.

#### 12.6. Endocrine disrupting properties

This product does not contain a substance that has endocrine disrupting properties with respect to non-target organisms as no components meets the criteria.

#### 12.7. Other adverse effects

No information available.

#### Further information

Avoid release to the environment. Do not allow to enter into surface water or drains.

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

Do not allow to enter into surface water or drains. Dispose of waste according to applicable legislation. Hazardous waste according to Directive 2008/98/EC (waste framework directive). Observe in addition any national regulations! Consult the local waste disposal expert about waste disposal. According to (EWC) European Waste Catalogue, allocation of waste identity numbers/waste descriptions must be carried out in a specific way for every industry and process. Control report for waste code/ waste marking according to (EWC) European Waste Catalogue:

**List of Wastes Code - residues/unused products**

060704 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of halogens and halogen chemical processes; solutions and acids, for example contact acid; hazardous waste

**List of Wastes Code - used product**

060704 WASTES FROM INORGANIC CHEMICAL PROCESSES; wastes from the MFSU of halogens and halogen chemical processes; solutions and acids, for example contact acid; hazardous waste

**List of Wastes Code - contaminated packaging**

150110 WASTE PACKAGING; ABSORBENTS, WIPING CLOTHS, FILTER MATERIALS AND PROTECTIVE CLOTHING NOT OTHERWISE SPECIFIED; packaging (including separately collected municipal packaging waste); packaging containing residues of or contaminated by hazardous substances; hazardous waste

**Contaminated packaging**

Wash with plenty of water. Completely emptied packages can be recycled. Non-contaminated packages may be recycled. Handle contaminated packages in the same way as the substance itself.

**SECTION 14: Transport information****Land transport (ADR/RID)**

<b>14.1. UN number or ID number:</b>	UN 1760
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, N.O.S. (hydrochloric acid % ,phosphoric acid)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8



Classification code:	C9
Special Provisions:	274
Limited quantity:	5 L
Excepted quantity:	E1
Transport category:	3
Hazard No:	80
Tunnel restriction code:	E

**Inland waterways transport (ADN)**

<b>14.1. UN number or ID number:</b>	UN 1760
<b>14.2. UN proper shipping name:</b>	CORROSIVE LIQUID, N.O.S. (hydrochloric acid % ,phosphoric acid)
<b>14.3. Transport hazard class(es):</b>	8
<b>14.4. Packing group:</b>	III
Hazard label:	8

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Classification code: C9  
 Special Provisions: 274  
 Limited quantity: 5 L  
 Excepted quantity: E1

**Marine transport (IMDG)**

**14.1. UN number or ID number:** UN 1760  
**14.2. UN proper shipping name:** CORROSIVE LIQUID, N.O.S. (hydrochloric acid % , phosphoric acid)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8



Special Provisions: 223 274  
 Limited quantity: 5 L  
 Excepted quantity: E1  
 EmS: F-A, S-B

**Air transport (ICAO-TI/IATA-DGR)**

**14.1. UN number or ID number:** UN 1760  
**14.2. UN proper shipping name:** CORROSIVE LIQUID, N.O.S. (hydrochloric acid % , phosphoric acid)  
**14.3. Transport hazard class(es):** 8  
**14.4. Packing group:** III  
 Hazard label: 8



Special Provisions: A3 A803  
 Limited quantity Passenger: 1 L  
 Passenger LQ: Y841  
 Excepted quantity: E1  
 IATA-packing instructions - Passenger: 852  
 IATA-max. quantity - Passenger: 5 L  
 IATA-packing instructions - Cargo: 856  
 IATA-max. quantity - Cargo: 60 L

**14.5. Environmental hazards**

ENVIRONMENTALLY HAZARDOUS: No

**14.6. Special precautions for user**

Warning: strongly corrosive. Refer to section 6-8

**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**
**EU regulatory information**

Restrictions on use (REACH, annex XVII):  
 Entry 3, Entry 75

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2010/75/EU (VOC):	No information available.
2004/42/EC (VOC):	No information available.
Information according to 2012/18/EU (SEVESO III):	Not subject to 2012/18/EU (SEVESO III)

**Additional information**

The mixture is classified as hazardous according to regulation (EC) No 1272/2008 [CLP].

**National regulatory information**

Employment restrictions:	Observe restrictions to employment for juveniles according to the 'juvenile work protection guideline' (94/33/EC).
Water hazard class (D):	1 - slightly hazardous to water

**15.2. Chemical safety assessment**

For the following substances of this mixture a chemical safety assessment has been carried out:

hydrochloric acid %  
phosphoric acid  
formic acid %

**SECTION 16: Other information****Changes**

This data sheet contains changes from the previous version in section(s): 2,3,4,5,6,7,8,9,10,11,12,13,14,15,16.

Rev. 0.9; Initial release: 12.11.2018

Rev. 1,0; Initial release: 28.10.2021

Rev. 1,1; Revision Change Classification, adaption P-phrases. : 28.10.2021

Rev. 1,1; Revision Ch. 1-16: 30.10.2021

Rev. 2,0; 30.08.2023; general adjustment(s)

**Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route

AwSV: Verordnung über Anlagen zum Umgang mit wassergefährdenden Stoffen

AGW: Arbeitsplatzgrenzwert

AVV: Abfallverzeichnisverordnung

CAS Chemical Abstracts Service

CLP: Classification, Labelling and Packaging of substances and mixtures

DNEL: Derived No Effect Level

d: day(s)

EAKV: Europäisches Abfallverzeichnis gemäß Entwurf Abfallverzeichnisverordnung

EINECS: European Inventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

ECHA: European Chemicals Agency

EWC: European Waste Catalogue

IARC: INTERNATIONAL AGENCY FOR RESEARCH ON CANCER

IMDG: International Maritime Code for Dangerous Goods

IATA: International Air Transport Association

IATA-DGR: Dangerous Goods Regulations by the "International Air Transport Association" (IATA)

ICAO: International Civil Aviation Organization

ICAO-TI: Technical Instructions by the "International Civil Aviation Organization" (ICAO)

GHS: Globally Harmonized System of Classification and Labelling of Chemicals

GefStoffV: Gefahrstoffverordnung (Ordinance on Hazardous Substances, Germany)

h: hour

LOAEL: Lowest observed adverse effect level

LOAEC: Lowest observed adverse effect concentration

LC50: Lethal concentration, 50 percent

LD50: Lethal dose, 50 percent

NOAEL: No observed adverse effect level

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NOAEC: No observed adverse effect level  
 NLP: No-Longer Polymers  
 N/A: not applicable  
 OECD: Organisation for Economic Co-operation and Development  
 PNEC: predicted no effect concentration  
 PBT: Persistent bioaccumulative toxic  
 RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail )  
 REACH: Registration, Evaluation, Authorisation of Chemicals  
 SVHC: substance of very high concern  
 TRGS Technische Regeln fuer Gefahrstoffe  
 UN: United Nations  
 VOC: Volatile Organic Compounds  
 VwVwS: Verwaltungsvorschrift wassergefaehrdender Stoffe  
 WGK: Wassergefaehrdungsklasse  
 CLP: Classification, labelling and Packaging  
 REACH: Registration, Evaluation and Authorization of Chemicals  
 GHS: Globally Harmonised System of Classification, Labelling and Packaging of Chemicals  
 UN: United Nations  
 CAS: Chemical Abstracts Service  
 DNEL: Derived No Effect Level  
 DMEL: Derived Minimal Effect Level  
 PNEC: Predicted No Effect Concentration  
 ATE: Acute toxicity estimate  
 LL50: Lethal loading, 50%  
 EL50: Effect loading, 50%  
 EC50: Effective Concentration 50%  
 ErC50: Effective Concentration 50%, growth rate  
 NOEC: No Observed Effect Concentration  
 BCF: Bio-concentration factor  
 PBT: persistent, bioaccumulative, toxic  
 vPvB: very persistent, very bioaccumulative  
 ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
 RID: Regulations concerning the international carriage of dangerous goods by rail  
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways (Accord européen relatif au transport international des marchandises dangereuses par voies de navigation intérieures)  
 EmS: Emergency Schedules  
 MFAg: Medical First Aid Guide  
 MARPOL: International Convention for the Prevention of Marine Pollution from Ships  
 IBC: Intermediate Bulk Container  
 For abbreviations and acronyms, see table at <http://abbrev.esdscom.eu>  
 For abbreviations and acronyms, see: ECHA Guidance on information requirements and chemical safety assessment, chapter R.20 (Table of terms and abbreviations).

**Classification for mixtures and used evaluation method according to GB CLP Regulation**

Classification	Classification procedure
Met. Corr. 1; H290	On basis of test data
Skin Corr. 1; H314	On basis of test data
Eye Dam. 1; H318	On basis of test data
STOT SE 3; H335	Calculation method

**Relevant H and EUH statements (number and full text)**

H226 Flammable liquid and vapour.  
 H290 May be corrosive to metals.

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H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H331	Toxic if inhaled.
H335	May cause respiratory irritation.

**Further Information**

The information is based on the present level of our knowledge. It does not, however, give assurance of product properties and establishes no contract legal rights. The receiver of our product is singularly responsible for adhering to existing laws and regulations.

The above information describes exclusively the safety requirements of the product and is based on our present-day knowledge. The information is intended to give you advice about the safe handling of the product named in this safety data sheet, for storage, processing, transport and disposal. The information cannot be transferred to other products. In the case of mixing the product with other products or in the case of processing, the information on this safety data sheet is not necessarily valid for the new made-up material.

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*(The data for the hazardous ingredients were taken respectively from the last version of the sub-contractor's safety data sheet.)*