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

1.1. Product identifier

Code:	**F_35**
Product name	**Acido Muriatico 9,6%**
UFI :	**8030-N0M4-W00T-TPV4**

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

Identified Uses	Industrial	Professional	Consumer
Descaler	-	✔	✔

Uses Advised Against

Do not use for uses other than those indicated

1.3. Details of the supplier of the safety data sheet

Name	**NEW FADOR S.r.l.**
Full address	**via Mario Calderara, 31**
District and Country	**25018 Montichiari (BS)**
	Italia
	Tel. +39 030961 243
	www.newfador.it
e-mail address of the competent person	
responsible for the Safety Data Sheet	**info@newfador.it**

1.4. Emergency telephone number

For urgent inquiries refer to	**NEW FADOR S.r.l.**
	+39 030961 243
	(08.30 - 17.30)

SECTION 2. Hazards identification

2.1. Classification of the substance or mixture

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878.
Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Classification pursuant to Reg. (EC) 1272/2008 as corrosive based on extreme pH.

Hazard classification and indication:

Substance or mixture corrosive to metals, category 1	H290	May be corrosive to metals.
Skin corrosion, category 1A	H314	Causes severe skin burns and eye damage.

2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:

Signal word: Danger

Hazard statements:

H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).

Precautionary tatements:

P101	If medical advice is needed, have product container or label at hand.
P102	Keep out of 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): 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
P405	Store locked up.
P501	Dispose of contents / container in accordance with current regulations.

Contains: HYDROCHLORIC ACID 9,6%

2.3. Other hazards

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.
The product does not contain substances with endocrine disrupting properties in concentration ≥ 0.1%.

SECTION 3. Composition/information on ingredients

3.1. Substances

Information not relevant

3.2. Mixtures

Contains:

Identification	x = Conc. %	Classification (EC) 1272/2008 (CLP)
HYDROCHLORIC ACID 32%		
INDEX 017-002-01-X	29 ≤ x < 31	Met. Corr. 1 H290, Skin Corr. 1B H314, Eye Dam. 1 H318, STOT SE 3 H335, Classification note according to Annex VI to the CLP Regulation: B
EC 231-595-7		Skin Corr. 1B H314: ≥ 25%, Skin Irrit. 2 H315: ≥ 10% - < 25%, Eye Dam. 1 H318: ≥ 25%, Eye Irrit. 2 H319: ≥ 10% - < 25%, STOT SE 3 H335: ≥ 10%
CAS 7647-01-0		
REACH Reg. 01-2119484862-27-0085		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

SECTION 4. First aid measures

4.1. Description of first aid measures

If in doubt or if you experience symptoms, contact a doctor and show him this document. In case of serious symptoms, call 118 to obtain immediate medical help.
EYES: Remove contact lenses, if present, if the situation allows you to carry out the operation easily. Wash immediately and abundantly with water for at least 15 minutes, opening the eyelids wide. Seek immediate medical attention. Do not use eye drops or medicines of any kind before the visit or advice of the ophthalmologist.
SKIN: Take off contaminated clothing. Wash immediately and abundantly with running water. Contact a poison control center or doctor immediately. Avoid further contact with contaminated clothing.
INHALATION: Move the subject to fresh air, away from the accident site. Consult a doctor immediately.
INGESTION: Wash mouth with plenty of water if the person is conscious. Contact a poison control center or doctor immediately. Do not under any circumstances induce vomiting.

HYDROCHLORIC ACID 32%
Inhalation: Remove the person to fresh air and keep them at rest in a position that allows them to breathe comfortably. If symptoms persist or breathing becomes difficult, consult a doctor. Skin contact Immediately remove all contaminated clothing, including shoes. Rinse your skin with water or take a shower. In case of redness or burns, consult a doctor.
Eye contact: Rinse thoroughly with water for several minutes. Remove contact lenses, if present and easy to remove. Continue rinsing. Keep the eyelids lifted from the eyeball to ensure thorough rinsing. Always consult an ophthalmologist.
Ingestion: Only when the person is conscious, rinse the mouth with plenty of water. Drink water. DO NOT induce vomiting. Take the person to hospital immediately.

Rescuer protection
It is good practice for the rescuer who provides help to a person who has been exposed to a chemical substance or mixture to wear personal protective equipment. The nature of these protections depends on the hazard of the substance or mixture, the mode of exposure and the extent of contamination. In the absence of other more specific indications, it is recommended to use disposable gloves in case of possible contact with biological liquids. For the type of PPE suitable for the characteristics of the substance or mixture, refer to section 8.

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

In case of inhalation: Severe irritation of the respiratory tract, cough, burning in the throat and airways. Inhalation of larger quantities may cause laryngospasm with shortness of breath, pulmonary edema.
In case of skin contact: skin lesions, burns.
In case of contact with eyes: serious eye damage.
In case of ingestion: Ingestion may cause burns of the mouth, throat, digestive system, cause diarrhea and vomiting, gastric pain. Vomit can enter the lungs causing damage (aspiration).

HYDROCHLORIC ACID 32%
Gases and mists are irritating to the respiratory tract. May cause delayed pulmonary edema. The product may be corrosive to eyes, skin and upper respiratory tract.

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

In case of symptoms, whether acute or delayed, consult a doctor. In the event of an accident or feeling unwell, consult a doctor immediately (show the instructions for use or safety data sheet if possible). Treatment: Symptomatic treatment.

HYDROCHLORIC ACID 32%
If exposed or unwell: contact a POISON CENTER or doctor. Symptomatic treatment is recommended.

Means to have available in the workplace for specific and immediate treatment
Running water for skin and eye washing.

SECTION 5. Firefighting measures

5.1. Extinguishing media

Suitable extinction means. The extinction vehicles are the traditional ones: carbon dioxide, foam, dust and nebulized water. Non -suitable extinction means
None in particular.

5.2. Special hazards arising from the substance or mixture

Dangers due to exposure in case of fire. Avoid breathing combustion products. Combustion can produce gas and vapors potentially harmful to health such as carbon dioxide, carbon monoxide, satisfying, nox and irritating fumes.

5.3. Advice for firefighters

INFORMAZIONI GENERALI
Raffreddare con getti d'acqua i contenitori per evitare la decomposizione del prodotto e lo sviluppo di sostanze potenzialmente pericolose per la salute. Indossare sempre l'equipaggiamento completo di protezione antincendio. Raccogliere le acque di spegnimento che non devono essere scaricate nelle fognature. Smaltire l'acqua contaminata usata per l'estinzione ed il residuo dell'incendio secondo le norme vigenti.
EQUIPAGGIAMENTO
Indumenti normali per la lotta al fuoco, come un autorespiratore ad aria compressa a circuito aperto (EN 137), completo antifiamma (EN469), guanti antifiamma (EN 659) e stivali per Vigili del Fuoco (HO A29 oppure A30).

SECTION 6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For those who do not intervene directly
Stop the leak if there is no danger. Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of the skin, eyes and personal clothing. These indications are valid both for those employed in the processes and for emergency interventions. Remove unnecessary personnel.
6.1.2. For those who intervene directly
Wear appropriate protective equipment (including personal protective equipment referred to in section 8 of the safety data sheet) to prevent contamination of the skin, eyes and personal clothing. These indications are valid both for those employed in the processes and for emergency interventions.

6.2. Environmental precautions

Prevent penetration into the soil/subsoil. Prevent runoff into surface water or sewer system. Retain contaminated wash water and discard it.

HYDROCHLORIC ACID 32%
Avoid dispersion into the environment. Do not dispose of in wastewater or surface water.

6.3. Methods and material for containment and cleaning up

Containment: Cover drains if necessary. Suck up the spilled product into a suitable container. Evaluate the compatibility of the container to be used with the product, checking section 10. Absorb the remainder with inert absorbent material. Remediation: Provide sufficient ventilation of the area affected by the leak. Clean with plenty of water and retain the contaminated washing water and discard it. Disposal of contaminated material must be carried out in accordance with the provisions of point 13.

HYDROCHLORIC ACID 32%
Raccogliere il prodotto fuoriuscito in contenitori idonei e resistenti agli acidi. Arrestare la perdita chiudendo le valvole, se possibile in sicurezza, inserire copertura sugli scarichi. Trattenere il prodotto fuoriuscito con terra o materiale assorbente universale. Raccogliere il materiale contaminato in contenitori resistenti agli acidi. Smaltire il materiale contaminato e il relativo contenitore come rifiuto pericoloso secondo le normative locali. Neutralizzare piccole fuoriuscite con calce o carbonato di sodio. Sciacquare i residui con abbondante acqua. Pulire gli attrezzi contaminati con abbondante acqua.

6.4. Reference to other sections

Any information regarding personal protection and disposal is reported in sections 8 and 13

SECTION 7. Handling and storage

7.1. Precautions for safe handling

Manipulate the product after consulting all the other sections of this safety card. Avoid the dispersion of the product in the environment. Do not eat, nor drink, nor smoking during use.

HYDROCHLORIC ACID 32%
Normal precautions for handling chemical products should be observed. Avoid any direct contact with the product. Provide showers, eye fountains. Avoid contact with skin and eyes, inhalation of vapors and mists. Use localized ventilation system.

7.2. Conditions for safe storage, including any incompatibilities

Keep the product in clearly labeled containers. Store the containers away from any incompatible materials, checking section 10.

HYDROCHLORIC ACID 32%
Store only in double-walled tanks with a leak control system, or in tanks/vessels in a containment area. Use waterproof floors and corrosion-resistant equipment. Keep containers tightly closed in a dry, well-ventilated place. Ensure adequate air exchange and/or an extraction system in the work rooms. Store in steel tanks lined with hard rubber or other resistant lining, or in plastic containers made of PE, PP, chlorinated or fluorinated polymers, or in glass bottles. Avoid: Unprotected metals, glass fiber reinforced plastic (GRP). Do not store together with incompatible materials.

7.3. Specific end use(s)

Refer to the final uses identified in the subsection 1.2 of this form.

SECTION 8. Exposure controls/personal protection

8.1. Control parameters

Regulatory references:

DEU	Deutschland	WirkungDosisNOAELMAK-und BAT-Werte-Liste 2024 Ständige Senatskommission zur Prüfung gesundheitsschädlicher Arbeitsstoffe
DNK	Danmark	BEK nr 291 af 19/03/2024 (Historisk) Bekendtgørelse om grænseværdier for stoffer og materialer (kemiske agenser) i arbejdsmiljøet
ESP	España	Límites de exposición profesional para agentes químicos en España 2024
FIN	Suomi	HTP-VÄRDEN 2020. Koncentrationer som befunnits skadliga. SOCIAL - OCH HÄLSOVÅRDSMINISTERIETS PUBLIKATIONER 2020:25
HUN	Magyarország	Az innovációért és technológiáért felelős miniszter 5/2020. (II. 6.) ITM rendelete a kémiai kóroki tényezők hatásának kitett munkavállalók egészségének és biztonságának védelméről
ITA	Italia	Decreto Legislativo 9 Aprile 2008, n.81
NOR	Norge	Forskrift om endring i forskrift om tiltaksverdier og grenseverdier for fysiske og kjemiske faktorer i arbeidsmiljøet samt smitterisikogrupper for biologiske faktorer (forskrift om tiltaks- og grenseverdier), 21. 10. april 2024 kl. 13.55
NLD	Nederland	Regeling van de Minister van Sociale Zaken en Werkgelegenheid van 13 mei2024, nr. 2024-0000092805, tot wijziging van deArbeidsomstandighedenregeling in verband met de implementatie vanRichtlijn 2022/431
PRT	Portugal	Decreto-Lei n.º 102/2024, de 4 de dezembro. Sumário: Transpõe para a ordem jurídica interna a Diretiva (UE) 2022/431, relativa à proteção dos trabalhadores contra riscos ligados à exposição a agentes cancerígenos ou mutagénicos e procede à quarta alteração
POL	Polska	ROZPORZĄDZENIE MINISTRA RODZINY, PRACY I POLITYKI SPOŁECZNEJ z dnia 24 czerwca 2024 r. zmieniające rozporządzenie w sprawie najwyższych dopuszczalnych stężeń i natężeń czynników szkodliwych dla zdrowia w środowisku pracy
ROU	România	HOTĂRÂRE nr. 179 din 28 februarie 2024 pentru modificarea şi completarea Hotărârii Guvernului nr. 1.093/2006 privind stabilirea cerinţelor minime de securitate şi sănătate pentru protecţia lucrătorilor împotriva riscurilor legate de expunerea la agenţi ca
SWE	Sverige	Arbetsmiljöverkets föreskrifter och allmänna råd (AFS 2023:14) om gränsvärden för luftvägsexponering i arbetsmiljön
EU	OEL EU	Directive (EU) 2022/431; Directive (EU) 2019/1831; Directive (EU) 2019/130; Directive (EU) 2019/983; Directive (EU) 2017/2398; Directive (EU) 2017/164; Directive 2009/161/EU; Directive 2006/15/EC; Directive 2004/37/EC; Directive 2000/39/EC; Directive 98/24/EC; Directive 91/322/EEC.
	ACGIH	ACGIH 2025

HYDROCHLORIC ACID 32%

Threshold Limit Value

Type	Country	TWA/8h	STEL/15min	Remarks / Observations

		mg/m3	ppm	mg/m3	ppm
AGW	DEU	3	2	6	4
MAK	DEU	3	2	6	4
TLV	DNK			8	5
VLA	ESP	7,6	5	15	10
HTP	FIN			7,6	5
AK	HUN	8		16	
VLEP	ITA	8	5	15	10
TLV	NOR			7	5
TGG	NLD	8	5	15	10
VLE	PRT	8	5	15	10
NDS/NDSCh	POL	5		10	
TLV	ROU	8	5	15	10
NGV/KGV	SWE	3	2	6	4
OEL	EU	8	5	15	10
ACGIH				2,9 (C)	2 (C)

Predicted no-effect concentration - PNEC		
Normal value in fresh water	0,004	mg/l
Normal value of STP microorganisms	0,004	mg/l

Health - Derived no-effect level - DNEL / DMEL

	Effects on consumers				Effects on workers			
Route of exposure	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation	15 mg/m3		8 mg/m3		15 mg/m3		8 mg/m3	

Legend:
(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.
VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

8.2. Exposure controls

Generic hygiene practice at work involves certain measures (for example, shower and change of clothes at the end of the work shift) in order to avoid Any type of third party contamination and appropriate cleaning practices (i.e. regular cleaning with adequate cleaning devices), do not eat and smoke in the workplace. In general, inhalation and ingestion must be avoided. Unless different indications, shoes and work clothing must be worn certificates. Contaminated work clothing must not be brought out of the workplace. Ensure good general ventilation in the place of and effective local aspiration or other technical equipment in order to maintain levels in the air below the exposure limit values. In the absence of adequate ventilation, automatic indicators and warnings to report the achievement of the concentrations or dangerous conditions. If this is not possible, frequent checks and measurements must be performed. For the choice of personal protective equipment, ask for advice from their DPI suppliers. Individual protection devices must report the EC marking certifying their compliance with current regulations. Provide an emergency shower with face and eye wash station.

Hands protection
Protect your hands with category III work gloves (Report EN 374). Recommended materials: nitrilic rubber, pvc, butyl rubber, neoprene. Protection class: 6 (permeation time greater than 480 minutes according to the EN 374 standard). Speaking of the recommended material: ≥ 0.4 mm. During the identification phase of the relevant material and the relative thickness to be used, it is highly recommended to compare directly with the DPI producer to evaluate the actual protection on the basis of use and the duration of use. For the definitive choice of the material of work gloves, compatibility, degradation, breakage and permeation must be considered. In the case of preparing, the resistance of work gloves to chemical agents must be verified before use as they are not predictable. Gloves
They have a wear time that depends on the duration and the use mode.

SKIN PROTECTION
Wear category III professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap

and water after removing protective clothing.

EYE PROTECTION
Wear a hood visor or protective visor combined with airtight goggles (see standard EN ISO 16321).

RESPIRATORY PROTECTION
Normally no respiratory protective device is required. In case of insufficient ventilation, exceeding the limit values in the workplace, excessive olfactory disturbance or in the presence of dust, aerosols, mists and smoke, it is necessary to use a respiratory protection mask independent of ambient air or a respiratory protection mask with filter or combined filters which must be chosen according to the EN 141 standard.

ENVIRONMENTAL EXPOSURE CONTROLS
The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

SECTION 9. Physical and chemical properties

9.1. Information on basic physical and chemical properties

Properties	Value	Information
Appearance	liquid	Temperature: 20 °C
Colour	colourless	Remark: Visual
Odour	characteristic	Method: internal
Odour threshold	not available	Reason for missing data: not determined
Melting point / freezing point	-114,2 °C	Method: literature data Substance: HYDROCHLORIC ACID 32%
Initial boiling point	-85,5 °C	Method: literature data Substance: HYDROCHLORIC ACID 32% Initial boiling point: -85,5 °C
Boiling range	not available	Reason for missing data: not determined
Flammability	not available	Reason for missing data: The substance/mixture is not flammable
Lower explosive limit	not available	Reason for missing data: This property is not relevant to the safety and classification of this product.
Upper explosive limit	not available	Reason for missing data: This property is not relevant to the safety and classification of this product.
Flash point	not available	Reason for missing data: The substance/mixture is not flammable
Auto-ignition temperature	not available	Reason for missing data: This property is not relevant to the safety and classification of this product.
Decomposition temperature	not available	Reason for missing data: This property is not relevant to the safety and classification of this product.
Self-accelerating decomposition temperature (SADT)	not available	Reason for missing data: It only applies to authoritative substances and mixtures, organic peroxides and other substances and mixtures that they can decompose
pH	<1	Method: internal method Concentration: 100 % Temperature: 20 °C
Kinematic viscosity	<10 mm2/sec	Method: internal Temperature: 20 °C
Solubility	Complete in water	Method: internal Temperature: 20 °C
Dissolution rate	42,02 g/100 g	Method: literature data

		Substance: HYDROCHLORIC ACID 32% Temperature: 20 °C
Partition coefficient: n-octanol/water	not available	Reason for missing data: does not apply to inorganic and ionic liquids and, as a rule, it does not apply to blends
Dispersion stability	not available	Reason for missing data: The mixture does not contain nanoform
Vapour pressure	34,424 mmHg	Method: datum of literature Substance: HYDROCHLORIC ACID 32% Vapour pressure: 34,424 mmHg Temperature: 25 °C
Density and/or relative density	1,04	Method: internal Temperature: 20 °C
Relative vapour density	0,0006 kg/dm3	Method: Literature data Substance: WATER Temperature: 0 °C

Particle characteristics

Median equivalent diameter
Remark: It only applies to solids

Size distribution
Remark: It only applies to solids

Dustiness
Remark: It only applies to solids

Specific surface area
Remark: It only applies to solids

Shape
Remark: It only applies to solids

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Corrosive to metals

Corrosive to metals	Remark:It can be corrosive for metals.

9.2.2. Other safety characteristics

Acid/alkaline reserve	not available	Remark: Tests on the buffer capacity of the substance/mixture was not performed.
Miscibility	not available	Remark: See section 9.1 Solubility
Corrosiveness	not available	Remark: Classification pursuant to Reg. (EC) 1272/2008 as a corrosive based on extreme pH.
Explosive properties	not available	Reason for missing data: Absent chemical groups associated with explosive properties in accordance with the provisions of Annex I, Part 2, chap. 2.1.4.3 of Reg. (EC) 1272/2008 – CLP
Oxidising properties	not available	Reason for missing data: Absent requirements related to the presence of atoms or chemical bonds associated with oxidizing properties in the molecules of the components according to Annex I, Part 2, 2.13.4 Reg. (CE) 1272/2008

SECTION 10. Stability and reactivity

10.1. Reactivity

There are no particular reaction dangers with other substances in normal conditions of use.

HYDROCHLORIC ACID 32%
Stable under normal conditions. Danger due to exothermic reactions. May be corrosive to metals.

10.2. Chemical stability

The product is stable in normal conditions of use and storage.

HYDROCHLORIC ACID 32%
Stable in normal conditions.

10.3. Possibility of hazardous reactions

In normal use and storage conditions, no dangerous reactions are predictable.

HYDROCHLORIC ACID 32%
Risk of explosion on contact with: alkaline metals, aluminium powder, hydrogen cyanide, alcohol.

The product reacts with:
- common construction metals with the development of highly flammable hydrogen gas,
- alkaline and organic bases with violent heat development,
- limestone, marble, dolomite and other carbonate minerals with the development of gaseous CO2,
- strong oxidants (whiteners, concentrated H2O2, HNO3, etc. and their salts, chromates, permanganates, etc.) with the development of toxic chlorine gas,
- sulfides with the development of toxic gaseous H2S,
- sulphites, hydrogen sulphites and pyrosulphites with the development of toxic gaseous SO2,
- with sodium azide to form highly toxic and explosive hydrazoic acid,
- any other chemical substance subject to (dangerous) reactions/decomposition with acids.

10.4. Conditions to avoid

None in particular. However, to follow the usual caution towards chemicals.

HYDROCHLORIC ACID 32%
Reactions with incompatible materials.

10.5. Incompatible materials

Strong alkalis, oxidizing agents.
Don't mix with other chemicals.

HYDROCHLORIC ACID 32%
Incompatible with: alkalis, organic substances, strong oxidants, metals.
Metals, alkaline substances, strong oxidants

10.6. Hazardous decomposition products

For thermal decomposition or in the event of a fire you can free gases and vapors potentially harmful to health as carbon dioxide, carbon monoxide and irritating fumes.

HYDROCHLORIC ACID 32%
In decomposition develops: hydrochloric acid fumes.

Heating causes the development of corrosive and toxic hydrogen chloride gas.
Highly flammable hydrogen can be generated from contact with steel or aluminum and other metals.
From contact with strong oxidants (whitening agents, H2O2, HNO3, etc), toxic gas chlorine is produced

SECTION 11. Toxicological information

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

Metabolism, toxicokinetics, mechanism of action and other information
The mixture as such has not been subjected to specific tests, therefore no experimental evaluations are available; please refer to the information in this subsection.

HYDROCHLORIC ACID 32%
Hydrochloric acid and its aqueous solution are corrosive and irritant and cause direct local effects on the skin, eyes and gastrointestinal or respiratory tract after direct exposure to sufficiently high concentrations. The chemistry of this substance is well known: as an inorganic salt, it dissolves in water forming hydrogen and chloride ions, both physiological electrolytes. Complete oral absorption can be expected. Skin absorption of dissolved salts, on the other hand, is generally limited. Due to the extreme solubility in water and the logP value less than 0, the ions are too hydrophilic to cross the lipid-rich environment of the stratum corneum. Skin absorption of such salt-in-water solutions will be low. Concentrated hydrochloric acid is corrosive to the skin. At concentrations lower than those that cause corrosion, hydrochloric acid does not present systemic toxicity. Dermal exposure should be controlled based on the potential risk of local effects (irritation, corrosion) on the skin.

Information on likely routes of exposure
The likely routes of exposure depend on the use of the mixture.
Usually dermal exposure is the most likely, rarely inhalation and oral.
For the effects, please refer to the other subsections in this section and to section 4 of this sheet.

Delayed and immediate effects as well as chronic effects from short and long-term exposure
The mixture as such has not been subjected to specific tests, therefore no experimental evaluations are available; please refer to the other subsections in this section and to section 4 of this sheet.

HYDROCHLORIC ACID 32%
Concentrated hydrochloric acid is corrosive to the skin. At concentrations lower than those that cause corrosion, hydrochloric acid does not present systemic toxicity. Dermal exposure should be controlled based on the potential risk of local effects (irritation, corrosion) on the skin.

Interactive effects
Under normal conditions of use no interactive effects are currently expected.

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

HYDROCHLORIC ACID 32%

LC50 (Inhalation vapours):	45,6 mg/l/5 minuti Rat

SKIN CORROSION / IRRITATION
Corrosive for the skin

HYDROCHLORIC ACID 32%
Method: OECD 431
Reliability (Klimisch score):1
Species: Human skin model
Results: category 1 corrosive
Source: ECHA CHEM 04/26

SERIOUS EYE DAMAGE / IRRITATION
Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%
Method: OECD 437
Reliability (Klimisch score):1
Species: cattle, bovine conea
Results: corrosive
ECHA CHEM 4/26

RESPIRATORY OR SKIN SENSITISATION
Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%
It does not meet the classification criteria for this hazard class.

GERM CELL MUTAGENICITY
Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%
It does not meet the classification criteria for this hazard class.

CARCINOGENICITY
Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%
It does not meet the classification criteria for this hazard class.

REPRODUCTIVE TOXICITY
Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%
It does not meet the classification criteria for this hazard class.

STOT - SINGLE EXPOSURE
Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%
Category 3 with respiratory tract irritation, C >= 10%

Target organs

HYDROCHLORIC ACID 32%
lungs, respiratory system

Route of exposure

HYDROCHLORIC ACID 32%
inhalation

STOT - REPEATED EXPOSURE
Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%
It does not meet the classification criteria for this hazard class.

ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

HYDROCHLORIC ACID 32%

It does not meet the classification criteria for this hazard class.

11.2. Information on other hazards

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

SECTION 12. Ecological information

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

12.1. Toxicity

HYDROCHLORIC ACID 32%	
LC50 - for Fish	20,5 mg/l/96h Lepomis macrochirus
EC50 - for Crustacea	0,45 mg/l/48h Daphnia Magna; OECD 202
EC50 - for Algae / Aquatic Plants	0,73 mg/l/72h Chlorella vulgaris
EC10 for Algae / Aquatic Plants	0,364 mg/l/72h

12.2. Persistence and degradability

HYDROCHLORIC ACID 32%	
Solubility in water	42,02 g/100g solution
Degradability: information not available	inorganic compound, not relevant

12.3. Bioaccumulative potential

Information not available

HYDROCHLORIC ACID 32%
Bioaccumulation is not expected.

12.4. Mobility in soil

Information not available

HYDROCHLORIC ACID 32%
Hydrochloric acid is a strong acid that is very soluble in water and dissociates completely.

12.5. Results of PBT and vPvB assessment

On the basis of available data, the product does not contain any PBT or vPvB in percentage ≥ than 0,1%.

12.6. Endocrine disrupting properties

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

12.7. Other adverse effects

Information not available

SECTION 13. Disposal considerations

13.1. Waste treatment methods

Before disposal, it is always recommended to classify waste according to applicable national legislation.
Indicatively, the codes of the European waste list can be:
20 01 29* - detergents containing dangerous substances
15 01 10* - packaging containing residues of dangerous substances or contaminated by such substances

The release of waste in the sewer is strongly not recommended. The disposal of this product, solutions and any by -product must be carried out by always certifying the indications of the law on the protection of the environment and on the disposal of waste and the requirements of each relevant local authority.
Do not get rid of the product and the container except with the necessary precautions. Empty containers can contain product residues. Avoid the dispersion and outflow of material possibly spilled and the contact with soil, waterways, exhausts and sewers.

SECTION 14. Transport information

14.1. UN number or ID number

ADR / RID, IMDG, IATA: UN 1789

14.2. UN proper shipping name

ADR / RID:	HYDROCHLORIC ACID
IMDG:	HYDROCHLORIC ACID
IATA:	HYDROCHLORIC ACID

14.3. Transport hazard class(es)

ADR / RID:	Class: 8	Label: 8
IMDG:	Class: 8	Label: 8
IATA:	Class: 8	Label: 8

14.4. Packing group

ADR / RID, IMDG, IATA: II

14.5. Environmental hazards

ADR / RID:	NO
IMDG:	not marine pollutant
IATA:	NO

14.6. Special precautions for user

ADR / RID:	HIN - Kemler: 80	Limited Quantities: 1 L	Tunnel restriction code: (E)
	Special provision: 520		
IMDG:	EMS: F-A, S-B	Limited Quantities: 1 L	
IATA:	Cargo:	Maximum quantity: 30 L	Packaging instructions: 855
	Passengers:	Maximum quantity: 1 L	Packaging instructions: 851
	Special provision:	A3, A803	

14.7. Maritime transport in bulk according to IMO instruments

Information not relevant

SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

Product
Point 3

Contained substance
Point 75 HYDROCHLORIC ACID 32% REACH Reg.: 01-2119484862-27-0085

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors
not applicable

Substances in Candidate List (Art. 59 REACH)
On the basis of available data, the product does not contain any SVHC in percentage ≥ than 0,1%.

Substances subject to authorisation (Annex XIV REACH)
None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:
None

Substances subject to the Rotterdam Convention:
None

Substances subject to the Stockholm Convention:
None

Healthcare controls
Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the

workers' health and safety are modest and that the 98/24/EC directive is respected.

15.2. Chemical safety assessment

A chemical safety assessment has been performed for the substances indicated in section 3.

SECTION 16. Other information

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

Met. Corr. 1	Substance or mixture corrosive to metals, category 1
Skin Corr. 1A	Skin corrosion, category 1A
Skin Corr. 1B	Skin corrosion, category 1B
Skin Corr. 1C	Skin corrosion, category 1C
Skin Corr. 1	Skin corrosion, category 1
Eye Dam. 1	Serious eye damage, category 1
Eye Irrit. 2	Eye irritation, category 2
Skin Irrit. 2	Skin irritation, category 2
STOT SE 3	Specific target organ toxicity - single exposure, category 3
H290	May be corrosive to metals.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H319	Causes serious eye irritation.
H315	Causes skin irritation.
H335	May cause respiratory irritation.
EUH206	Warning! Do not use together with other products. May release dangerous gases (chlorine).

LEGEND:
- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)
- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulation
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent, bioaccumulative and toxic
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PMT: Persistent, mobile and toxic
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value

- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very persistent and very bioaccumulative
- vPvM: Very persistent and very mobile
- WGK: Water hazard classes (German).

GENERAL BIBLIOGRAPHY

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
12. Regulation (EU) 2016/1179 (IX Atp. CLP)
13. Regulation (EU) 2017/776 (X Atp. CLP)
14. Regulation (EU) 2018/669 (XI Atp. CLP)
15. Regulation (EU) 2019/521 (XII Atp. CLP)
16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
17. Regulation (EU) 2019/1148
18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
23. Delegated Regulation (UE) 2023/707
24. Delegated Regulation (UE) 2023/1434 (XIX Atp. CLP)
25. Delegated Regulation (UE) 2023/1435 (XX Atp. CLP)
26. Delegated Regulation (UE) 2024/197 (XXI Atp. CLP)
27. Delegated Regulation (UE) 2024/2564 (XXII Atp. CLP)
28. Regulation (EU) 2024/2865
- The Merck Index. - 10th Edition
- Handling Chemical Safety
- INRS - Fiche Toxicologique (toxicological sheet)
- Patty - Industrial Hygiene and Toxicology
- N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
- IFA GESTIS website
- ECHA website
- Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

- ECHA CHEM website (ECHA Chemicals Database)

Note for the user:
The information contained in this sheet is based on the knowledge available to us at the date of the latest version. The user must ensure the suitability and completeness of the information in relation to the specific use of the product.
This document should not be interpreted as a guarantee of any specific property of the product.
Since the use of the product does not fall under our direct control, it is the user's obligation to observe the laws and regulations in force regarding hygiene and safety under his own responsibility. We do not assume responsibility for improper use.
Provide adequate training to personnel responsible for using chemical products.
CLASSIFICATION CALCULATION METHODS
Chemical-physical hazards: The classification of the product was derived from the criteria established by the CLP Regulation Annex I Part 2. The methods of evaluation of the chemical-physical properties are reported in section 9.
Health hazards: Classification pursuant to Reg. (EC) 1272/2008 as corrosive based on extreme pH. For other health hazard product classification is based on the calculation methods in Annex I of CLP Part 3, unless otherwise indicated in section 11.
Environmental hazards: The classification of the product is based on the calculation methods in Annex I of CLP Part 4, unless otherwise indicated in section 12.

Changes to previous review:
The following sections were modified:
01 / 02 / 03 / 04 / 06 / 07 / 08 / 09 / 10 / 11 / 12 / 13 / 14 / 15 / 16.