

HYDROCHLORIC ACID 32%

Date of issue: 2024/05/31
Revision No.: 2.0

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY

1.1 Product Identifier

Product form	Liquid
Chemical Name	HYDROCHLORIC ACID 32%
Index No.	017-002-00-2
EC No.	231-595-7
CAS No.	7647-01-0

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

1.2.1 Relevant identified uses	Laboratory Chemical
1.2.2 Uses advised against	No additional information available.

1.3 Details of the supplier of the safety data sheet

De Bruyn Spectroscopic Solutions
70/145 Chattan Road
Glenferness
Midrand, 2191 Gauteng
South Africa

1.4 Emergency telephone number

RSA: 086 100 0366
Namibia: 080 010 0366
Other Countries: Contact Local Emergency Services.

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

Classification Regulation (EC) No 1272/2008 (CLP):

Met cor. 1 H290
Skin Corr. 1B, H314
Eye Dam 1, H318
STOT SE 3, H335

Full text of hazard classes and H statements: see Section 16.

Adverse physicochemical, human health and environmental effects:

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

2.2 Label Elements

Labelling (Regulation (EC) No 1272/2008

Hazard Pictograms:



Signal word: DANGER

Hazardous ingredients: Hydrochloric Acid

Hazard Statements:

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

Precautionary Statements:

P261 - Do not breathe mist, vapour, fume, or spray.
P271 – Use only outdoors or in a well-ventilated area.
P264 - Wash hands, forearms, and face thoroughly after handling.
P280 - Wear protective gloves/protective clothing/eye protection/face protection.

HYDROCHLORIC ACID 32%

P303+P361+P353 - IF ON SKIN (or hair): Immediately remove/take off 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 and continue rinsing.

P304+P340 – IF INHALED: remove to fresh air and keep at rest in a position suitable for breathing.

P310 -Immediately call a POISON CENTER/doctor

2.3 Other hazards

Other hazards not contributing to the classification:

This substance/mixture contains no components considered to be either persistent, bio accumulative and toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance

Not applicable.

3.2 Mixture

Name	Product Identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Hydrochloric acid	(CAS-No.) 7647-01-1 (EC-No.) 231-595-7 (EC Index-No.) 017-002-00-2	30-40	Met cor 1, H290; Skin Corr. 1B, H314; Eye dam 1, H318; STOT SE 3, H335

Specific concentration limits:
(C ≥ 25%) Skin Corr. 1B, H314
(10 ≤ C <25%) Skin Irr. 2, H315
(10 ≤ C <25%) Eye irr. 2, H319
(C ≥ 10%) STOT SE 3, H335

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

First aid measures general

Call a physician immediately. First aiders need to protect themselves.

First aid measures after inhalation

Remove person to fresh air and keep comfortable for breathing. Call a physician/doctor if breathing is difficult.

First aid measures after skin contact

Rinse skin with water/shower. Take off immediately all contaminated clothing. Call a doctor/physician immediately.

First aid measures after eye contact

Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a doctor/physician immediately.

First aid measures after ingestion

Rinse mouth. Do not induce vomiting. Call a doctor/physician immediately.

4.2 Most important symptoms and effects, both acute and delayed

Symptoms/effects after skin contact

Causes severe burns.

Symptoms/effects after eye contact

Causes serious damage to eyes. Risk of blindness.

Symptoms/effects after ingestion

Severe burns of the mouth and throat, as well lower respiratory tract.

Symptoms/effects after inhalation

Shortness of breath, difficulty breathing.

4.3 Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIRE FIGHTING MEASURES

5.1 Extinguishing media

Suitable extinguishing media

Water spray. Dry powder. Foam. Carbon dioxide. Use water fog to control fumes.

5.2 Special hazards arising from the substance or mixture

Fire hazard	Product not combustible.
Hazardous decomposition products in case of fire	Toxic fumes may be released. Hydrogen chloride gas, chlorine.

5.3 Advice for firefighters

Protection during firefighting	Do not attempt to act without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.
--------------------------------	--

5.4 Further Information

Suppress (knock down) gases/vapours/mists with a water fog.
Cool closed containers exposed to fire with water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES**6.1 Personal precautions, protective equipment, and emergency procedures****6.1.1 For non-emergency personnel**

Emergency procedures	Avoid substance contact. Do not breathe vapours, mist or spray. Ensure adequate ventilation. Prevent access to unprotected or untrained personnel.
----------------------	--

6.1.2 For emergency responders

Protective equipment	Do not attempt to act without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
----------------------	---

6.2 Environmental precautions

Avoid release to the environment.

6.3 Methods and materials for containment and cleaning up

Methods for cleaning up:	Cover spill area with inert material to avoid spread. Neutralise with lime or soda ash. Flush area.
--------------------------	---

Other Information	Dispose of materials or solid residues at an authorized site
-------------------	--

6.4 Reference to other sections

For further information refer to section 8, 13

SECTION 7: HANDLING AND STORAGE**7.1 Precautions for safe handling****Precautions for safe handling**

Wear recommended personal protective equipment. See section 8. Avoid contact with eyes and skin. Do not inhale fume, vapour, or mist. Do not use hot water for dilution and never add acid to water. Water added to acid can cause uncontrolled boiling and splashing.

Hygiene measures:

Handle in accordance with good industrial hygiene and safety practice. Immediately change contaminated clothing. Wash hands before breaks and at the end of workday. Do not eat, drink, or smoke while working.

7.2 Conditions for safe storage, including any incompatibilities**Storage conditions**

Store in a cool, dry, well-ventilated area. Keep out of direct sunlight and away from heat, water, and incompatible materials. Keep containers tightly closed.

Incompatible materials

Oxidizing agents, bases, metals, organic compounds. Corrosive to mild steel.

Packaging

Polyethylene, polypropylene, polyvinyl chloride.

7.3 Specific end users

No additional information.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**8.1 Exposure Limits**

Hydrochloric Acid (CAS: 7647-01-1)		
United Kingdom	WEL STEL (Gas and mist)	5 ppm / 8 mg/m ³
	WEL TWA (Gas and mist)	1 ppm / 2 mg/m ³
South Africa; HCA Regulations	TWA (8Hour) (Gas and mist)	4 ppm

HYDROCHLORIC ACID 32%

8.2 Exposure controls Appropriate engineering controls

Ensure availability of eye wash and shower in work area. Engineering measures are preferred to reduce exposure. General methods include mechanical ventilation, process or personal enclosure and control of process conditions.

Personal protective equipment

Hand protection

Eye protection

Skin and body protection

Respiratory protection

Protective gloves PVC, rubber

Tightly fitting safety goggles/face mask

Acid resistant protective clothing,

In case of insufficient ventilation, wear suitable respiratory equipment.



Environmental exposure controls

Avoid release to the environment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Product form	Liquid
Appearance	Clear, colorless, or slightly yellow fuming liquid
Odour	Pungent
Odour threshold	0.3 ppm (can cause olfactory fatigue)
pH	<1 @ 20°C
Relative evaporation rate (butylacetate=1)	No data available
Melting point/Freezing Point	-30°C
Initial Boiling point	>100°C (at 1.013 hPa)
Flash point	Not applicable
Auto-ignition temperature	Not applicable
Flammability (solid, gas)	Not applicable
Vapour pressure	84mmHg @20°C
Vapour density	No data available
Relative vapour density @ 20°C	1.267 g/cm ³ @ 20°C (air = 1)
Density	1.15 - 1.17 g/cm ³ @ 20°C
Solubility (water)	Miscible
Log Pow	No data available
Viscosity, kinematic	No data available
Viscosity, dynamic	No data available
Explosive properties	Not classified as explosive
Explosive limits	Not applicable
Oxidising properties	None

9.2 Additional information No additional data available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

The product is non-reactive under recommended conditions of use, storage and transport.

HYDROCHLORIC ACID 32%

10.2 **Chemical stability**

Stable under recommended storage conditions.

10.3 **Possibility of hazardous reactions**

The product reacts with metals with release of highly flammable hydrogen gas. Reacts with alkalies with evolution of heat. Reacts with oxidizers generating toxic chlorine gas. Reacts with cyanides or sulphides generating toxic hydrogen cyanide or hydrogen sulphide gas.

10.4 **Conditions to avoid**

Heat, direct sunlight, contact with common metals, alkali metals, incompatible products.

10.5 **Incompatible materials**

Bases, amines, alkali metals, metals, oxidizers.

10.6 **Hazardous decomposition products**

When heated to decomposition, emits hydrogen chloride gas and will react with water or steam to produce heat and toxic, corrosive fumes. Thermal oxidative decomposition produces toxic chlorine fumes and explosive hydrogen gas.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 **Information on toxicological effects**

Acute toxicity (oral)	Not classified
Acute toxicity (Dermal)	Not classified
Acute toxicity (Respiratory)	Not classified
Skin corrosion/irritation:	Causes severe skin burns and eye damage.
Serious eye damage/irritation	Serious eye damage, implicit
Respiratory or skin sensitisation	Not classified
Germ cell mutagenicity	Not classified
Carcinogenicity	Not classified
Reproductive toxicity	Not classified
STOT-SE	May cause respiratory irritation
STOT RE	Not classified
Aspiration hazard	Not classified

11.2 **Additional Information**

Endocrine disrupting properties

This substance/mixture does not contain components considered to have endocrine disrupting properties affecting human health, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

SECTION 12: ECOLOGICAL INFORMATION

12.1 **Toxicity**

Ecology - general	Before neutralisation, the product may represent a danger to aquatic organisms.
Acute aquatic toxicity	Not classified
Chronic aquatic toxicity	Not classified

12.2 **Persistence and degradability**

Not applicable for inorganic compounds.

12.3 **Bioaccumulative potential**

Not applicable for inorganic compounds.

12.4 **Mobility**

Will be neutralized by naturally occurring alkalinity.

12.5 **Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bio accumulative or toxic (PBT), or very persistent and very bio accumulative (vPvB) at levels of 0.1% or higher.

12.6 **Endocrine disrupting properties**

Assessment This substance/mixture does not contain components considered to have endocrine disrupting properties for environment, according to REACH Article 57(f), Commission Regulation (EU) 2018/605 or Commission Delegated Regulation (EU) 2017/2100.

12.7 **Other adverse effects**


No additional information.

SECTION 13: DISPOSAL CONSIDERATIONS**Waste treatment methods: Product and packaging**

The generation of waste should be avoided or minimised wherever possible. This material and packaging must be disposed of in a safe way in consultation with licensed waste disposal company in accordance with local legal requirements.

SECTION 14: TRANSPORT INFORMATION

In accordance with ADR / IMDG / IATA

	ADR	IMDG	IATA	Class Diamond
UN Number	1789	1789	1789	
Proper Shipping Name	HYDROCHLORIC ACID	HYDROCHLORIC ACID	HYDROCHLORIC ACID	
Hazard Class	8	8	8	
Subsidiary hazard class	-	-	-	
Packing Group	II	II	II	
Marine pollutant	No	No	No	

Limited/Excepted quantity: 1L

SECTION 15: REGULATORY INFORMATION**15.1 Safety, health, and environmental regulations/legislation specific for the substance or mixture**

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

Authorisations and/or restrictions on use:

This product does not contain any substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.
Regulation (EU) 2019/1148 on the marketing and use of explosives precursors: None

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : No restrictions.

National Regulations:

Occupational Health and Safety Act 85 of 1993.
Hazardous Chemical Agents Regulations.
SANS 10228, 10229, 10232-4.

15.2 Chemical Safety Assessment

No chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Full text of R-, H- and EUH-statements:

Sk cor. Cat 1B, H314	Skin corrosion, Category 1A, Causes severe skin burns.
Eye Dam 1, H318	Eye Damage Category 1, Causes serious eye damage
Met.Cor. 1A, H290	Metal corrosion Category 1A, May cause metal corrosion.
Sk cor. Cat 1A, H314	Skin corrosion, Category 1A, Causes severe skin burns and eye damage.
STOT SE, 3, H335	Specific target organ toxicity, single exposure, May cause respiratory irritation.
WEL STEL	Workplace Exposure Limit; Short term Exposure Limit
TWA	Time weighted average

"DISCLAIMER: The information in this Safety Data Sheet (SDS) is believed to be correct as of the date issued. De Bruyn SPECTROSCOPIC Solutions MAKES NO WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING, BUT NOT LIMITED TO, ANY IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR COURSE OF PERFORMANCE OR USAGE OF TRADE. User is responsible for determining whether the supplier's product is fit for a particular purpose and suitable for user's method of use or application. Given the variety of factors that can affect the use and application of the supplier's product, some of which are uniquely within the user's knowledge and control, it is essential that the user evaluate the product to determine whether it is fit for a particular purpose and suitable for user's method of use or application. The supplier provides information in electronic form as a service to its customers. Due to the remote possibility that electronic transfer may have resulted in errors, omissions or alterations in this information, the supplier makes no representations as to its completeness or accuracy."

Revision history	Changes	Date
Revision 2.0	Original document.	31-05-2024