SAFETY DATA SHEET

Creation Date 24-Aug-2009 **Revision Date** 21-May-2012 **Revision Number** 4

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

Product Identifier

Product Description: **Hydrochloric acid, ca. 32% solution in water**
Cat No. **389300000; 389300025**
Synonyms Muriatic acid

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company
Acros Organics BVBA
Janssen Pharmaceuticalaan 3a
2440 Geel, Belgium
E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

SECTION 2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin Corrosion/irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1
Specific target organ toxicity - (single exposure)	Category 3

Classification according to EU Directives 67/548/EEC or 1999/45/EC

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

Symbol(s) C - Corrosive
R-phrase(s) R34 - Causes burns
R37 - Irritating to respiratory system

SECTION 2. HAZARDS IDENTIFICATION

Label Elements

Signal Word **Danger**

Hazard Statements

H335 - May cause respiratory irritation
H314 - Causes severe skin burns and eye damage

Precautionary Statements - EU (§28, 1272/2008)

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting
P280 - Wear eye protection/ face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P261 - Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

Other Hazards

No information available.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.
Hydrochloric acid 7647-01-0	231-595-7	30-35	7647-01-0	C;R34 Xi;R37	Skin Corr. 1B (H314) Eye Dam. 1 (H318) STOT SE 3 (H335)	01-2119484862-27
Water 7732-18-5	EEC No 231-791-2	65-70	7732-18-5	-	-	-

For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16

SECTION 4. FIRST AID MEASURES

Description of first aid measures

Eye Contact Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Notes to Physician Treat symptomatically

SECTION 5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media
CO_2, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons
No information available.

Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas.

Environmental precautions

Should not be released into the environment.

Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable, closed containers for disposal..

SECTION 7. HANDLING AND STORAGE

Precautions for Safe Handling

Use only under a chemical fume hood. Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Do not breathe vapors/dust. Do not ingest.

Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Corrosives area.

Specific End Uses

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Control parameters

Exposure limits

Component	European Union	The United Kingdom	France	Belgium	Spain
Hydrochloric acid	TWA: 5 ppm 8 hr TWA: 8 mg/m^3 8 hr STEL: 10 ppm 15 min STEL: 15 mg/m^3 15 min	STEL: 5 ppm 15 min STEL: 8 mg/m^3 15 min TWA: 1 ppm 8 hr TWA: 2 mg/m^3 8 hr	VLCT: 5 ppm VLCT: 7.6 mg/m^3	TWA: 5 ppm 8 uren TWA: 8 mg/m^3 8 uren STEL: 10 ppm 15 minuten STEL: 15 mg/m^3 15 minuten	VLA-EC: 10 ppm 15 minutos VLA-EC: 15 mg/m^3 15 minutos VLA-ED: 5 ppm 8 horas VLA-ED: 7.6 mg/m^3 8 horas

Component	Italy	Germany	Portugal	The Netherlands	Finland
Hydrochloric acid	TWA: 5 ppm 8 ore. TWA: 8 mg/m^3 8 ore. STEL: 10 ppm 15 minuti. STEL: 15 mg/m^3 15 minuti.	MAK: 2 ppm 8 Stunden. MAK: 3.0 mg/m^3 8 Stunden. Peak: 4 ppm Peak: 6 mg/m^3 TWA: 2 ppm 8 Stunden. exposure factor 2 TWA: 3 mg/m^3 8 Stunden. exposure factor 2	Ceiling: 2 ppm	STEL: 15 mg/m^3 15 minuten TWA: 8 mg/m^3 8 uren	STEL: 5 ppm 15 minuutteina STEL: 7.6 mg/m^3 15 minuutteina

Component	Austria	Denmark	Switzerland	Poland	Norway
Hydrochloric acid	STEL: 10 ppm 15 Minuten STEL: 15 mg/m^3 15 Minuten TWA: 5 ppm 8 Stunden TWA: 8 mg/m^3 8 Stunden	Ceiling: 5 ppm Ceiling: 7 mg/m^3	STEL: 4 ppm 15 Minuten STEL: 6 mg/m^3 15 Minuten MAK: 2 ppm 8 Stunden MAK: 3.0 mg/m^3 8 Stunden	NDSCh: 10 mg/m^3 15 minutach TWA: 5 mg/m^3 8 godzinach	Ceiling: 5 ppm Ceiling: 7 mg/m^3

Component
Hydrochloric acid

Bulgaria	Croatia	Ireland	Cyprus	Czech Republic
TWA: 8.0 mg/m^3 STEL : 15.0 mg/m^3	TWA: 5 ppm 8 satima. TWA: 8 mg/m^3 8 satima. STEL: 10 ppm 15 minutama. STEL: 15 mg/m^3 15 minutama.	TWA: 5 ppm 8 hr. TWA: 8 mg/m^3 8 hr. STEL: 10 ppm 15 min STEL: 15 mg/m^3 15 min	STEL: 10 ppm STEL: 15 mg/m^3 TWA: 5 ppm TWA: 8 mg/m^3	TWA: 8 mg/m^3 8 hodinách. Ceiling: 15 mg/m^3

Component
Hydrochloric acid

Estonia	Gibraltar	Greece	Hungary	Iceland
TWA: 5 ppm 8 tundides. TWA: 8 mg/m^3 8 tundides. STEL: 10 ppm 15 minutites. STEL: 15 mg/m^3 15 minutites.	TWA: 5 ppm 8 hr TWA: 8 mg/m^3 8 hr STEL: 10 ppm 15 min STEL: 15 mg/m^3 15 min	STEL: 5 ppm STEL: 7 mg/m^3 TWA: 5 ppm TWA: 7 mg/m^3	STEL: 16 mg/m^3 15 percekben. TWA: 8 mg/m^3 8 órában.	STEL: 5 ppm STEL: 8 mg/m^3

Component
Hydrochloric acid

Latvia	Lithuania	Luxembourg	Malta	Romania
STEL: 10 ppm STEL: 15 mg/m^3 TWA: 5 ppm TWA: 8 mg/m^3	TWA: 5 ppm TWA: 8 mg/m^3 STEL: 10 ppm STEL: 15 mg/m^3	TWA: 5 ppm 8 Stunden TWA: 8 mg/m^3 8 Stunden STEL: 10 ppm 15 Minuten STEL: 15 mg/m^3 15 Minuten	TWA: 5 ppm TWA: 8 mg/m^3 STEL: 10 ppm 15 minuti STEL: 15 mg/m^3 15 minuti	TWA: 5 ppm 8 ore TWA: 8 mg/m^3 8 ore STEL: 10 ppm 15 minute STEL: 15 mg/m^3 15 minute

Component
Hydrochloric acid

Russia - TWA	Slovak Republic	Slovenia	Sweden	Turkey
MAC: 5 mg/m^3	Ceiling: 15 mg/m^3 TWA: 5 ppm TWA: 8.0 mg/m^3	TWA: 5 ppm 8 urah anhydrous TWA: 8 mg/m^3 8 urah anhydrous STEL: 10 ppm 15 minutah anhydrous STEL: 16 mg/m^3 15 minutah anhydrous	CLV: 5 ppm CLV: 8 mg/m^3	TWA: 5 ppm 8 saat TWA: 8 mg/m^3 8 saat STEL: 10 ppm 15 dakika STEL: 15 mg/m^3 15 dakika

Biological limit values This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) No information available.

Predicted No Effect Concentration (PNEC) No information available.

Exposure controls

Engineering Measures Use only under a chemical fume hood Ensure that eyewash stations and safety showers are close to the workstation location

Personal protective equipment

Eye Protection Safety glasses with side-shields

Hand Protection Protective gloves

Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure

Respiratory Protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators
Hygiene Measures	Handle in accordance with good industrial hygiene and safety practice
Environmental exposure controls	No information available.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Colorless
odor	pungent
pH	< 1
Vapor Pressure	125 mbar @ 20 °C
Vapor Density	1.26
Viscosity	1.9 mPa.s at 15 °C
Boiling Point/Range	57°C / 134.6°F@ 760 mmHg
Melting Point/Range	-35°C / -31°F
Decomposition temperature	1782 °C
Flash Point	No information available.
Autoignition Temperature	No information available.
Evaporation Rate	> 1.00
Specific Gravity	1.16
Molecular Formula	Cl H
Molecular Weight	36.45

SECTION 10. STABILITY AND REACTIVITY

Reactivity

Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions

Hazardous Polymerization	Hazardous polymerization does not occur.
Hazardous Reactions .	None under normal processing..

Conditions to Avoid

Incompatible products, Excess heat.

Incompatible Materials

Strong oxidizing agents, Reducing agents, Bases, Metals.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO_2). Hydrogen chloride gas.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects

Acute Toxicity

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation (Dust)
Hydrochloric acid	700 mg/kg (Rat)	5010 mg/kg (Rabbit)	

Chronic Toxicity

Carcinogenicity The table below indicates whether each agency has listed any ingredient as a carcinogen

Component	IARC	UK
Hydrochloric acid	group 3	-

Sensitization No information available.
Mutagenic Effects Mutagenic effects have occurred in experimental animals.
Reproductive Effects Experiments have shown reproductive toxicity effects on laboratory animals
Developmental Effects No information available.
Teratogenicity Teratogenic effects have occurred in experimental animals.
Target Organs Skin Respiratory system Eyes Gastrointestinal tract (GI)
Other Adverse Effects See actual entry in RTECS for complete information
Endocrine Disruptor Information None known

SECTION 12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects Do not empty into drains

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Hydrochloric acid		282 mg/L LC50 96 h		

Persistence and degradability

No information available

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

Other adverse effects

No information available

SECTION 13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products	Dispose of in accordance with local regulations
Contaminated Packaging	Empty containers should be taken to local recyclers for disposal

SECTION 14. TRANSPORT INFORMATION

IMDG/IMO

UN-No	UN1789
Hazard Class	8
Packing Group	II
Proper Shipping Name	Hydrochloric acid

ADR

UN-No	UN1789
Hazard Class	8
Packing Group	II
Proper Shipping Name	Hydrochloric acid

IATA

UN-No	UN1789
Hazard Class	8
Packing Group	II
Proper Shipping Name	Hydrochloric acid

SECTION 15. REGULATORY INFORMATION

SECTION 15. REGULATORY INFORMATION

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

International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Hydrochloric acid	231-595-7	-		T	X	-	X	X	X	X	X
Water	231-791-2	-		X	X	-	X	-	X	X	X

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances
CHINA - China Inventory of Existing Chemical Substances
AICS - Inventory of Chemical Substances
KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

SECTION 16. OTHER INFORMATION

Full text of R-phrases referred to under sections 2 and 3
R34 - Causes burns
R37 - Irritating to respiratory system

Revision Date 21-May-2012
Revision Summary

Reason for revision (M)SDS sections updated, 2, 3.

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

Disclaimer

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet