HALLIBURTON

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

15% HYDROCHLORIC ACID

Revision Date: 24-Apr-2014 **Revision Number:** 7

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

1.1 Product Identifier

Product Name 15% HYDROCHLORIC ACID

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

Recommended Use	Solvent
Sector of use	SU2 - Mining, (including offshore industries)
Product category	PC20 - Products such as pH-regulators, flocculants, precipitants, neutralization agents, other unspecific
Process categories	PROC4 - Use in batch and other process (synthesis) where opportunity for exposure arises

1.3 Details of the supplier of the safety data sheet

Halliburton Energy Services
Halliburton House, Howemoss Place
Kirkhill Industrial Estate
Dyce
Aberdeen, AB21 0GN
United Kingdom

Emergency Phone Number: +44 1224 795277 or +1 281 575 5000

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

1.4 Emergency telephone number

+44 1224 795277 or +1 281 575 5000

Emergency telephone - §45 - (EC)1272/2008	
Europe	**112**
Denmark	Poison Control Hotline (DK): +45 82 12 12 12
France	ORFILA (FR): + 01 45 42 59 59
Germany	Poison Center Berlin (DE): +49 030 30686 790
Italy	Poison Center, Milan (IT): +39 02 6610 1029
Netherlands	National Poisons Information Center (NL): +31 30 274 88 88 (NB: this service is only available to health professionals)
Norway	Poisons Information (NO):+ 47 22 591300
Poland	Poison Control and Information Centre, Warsaw (PL): +48 22 619 66 54; +48 22 619 08 97
Spain	Poison Information Service (ES): +34 91 562 04 20
United Kingdom	NHS Direct (UK): +44 0845 46 47

2. Hazards Identification

2.1 Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin Corrosion / irritation	Category 2 - H315
Serious Eye Damage / Eye Irritation	Category 2 - H319
Specific Target Organ Toxicity - (Single Exposure)	Category 3 - H335

Classification according to EU Directives 67/548/EEC or 1999/45/EC
For the full text of the R-phrases mentioned in this Section, see Section 16

Classification Xi - Irritant.

Risk Phrases

R36/37/38 Irritating to eyes, respiratory system and skin.

2.2 Label Elements

Hazard Pictograms

Signal Word **Warning**

Hazard Statements
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H335 - May cause respiratory irritation

Precautionary Statements - EU (§28, 1272/2008)
P280 - Wear protective gloves/eye protection/face protection
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P332 + P313 - If skin irritation occurs: Get medical advice/attention
P362 - Take off contaminated clothing and wash before reuse
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P337 + P313 - If eye irritation persists: Get medical advice/attention

Contains

Substances	**CAS Number**
Hydrochloric acid	7647-01-0

2.3 Other Hazards
None known

3. Composition/information on Ingredients

Substances	EINECS	CAS Number	PERCENT (w/w)	EEC Classification	EU - CLP Substance Classification	REACH No.
Hydrochloric acid	231-595-7	7647-01-0	10 - 30%	C; R34 Xi; R37	Skin Corr. 1A (H314) STOT SE 3 (H335) Met. Corr. 1 (H290)	01-2119484862-27

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

4. First aid measures

4.1 Description of first aid measures

Inhalation If inhaled, remove to fresh air. If not breathing give artificial respiration, preferably mouth-to-mouth. If breathing is difficult give oxygen. Get medical attention.

Eyes	In case of contact, or suspected contact, immediately flush eyes with plenty of water for at least 15 minutes and get medical attention immediately after flushing.
Skin	In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.
Ingestion	Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person.

4.2 Most Important symptoms and effects, both acute and delayed

May cause severe eye irritation. May cause severe skin irritation. May cause respiratory irritation

4.3 Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically

5. Firefighting Measures

5.1 Extinguishing media

Suitable Extinguishing Media

Water fog, carbon dioxide, foam, dry chemical.

Extinguishing media which must not be used for safety reasons

None known.

5.2 Special hazards arising from the substance or mixture

Special Exposure Hazards

May form explosive mixtures with strong alkalis. Decomposition in fire may produce toxic gases. Reaction with steel and certain other metals generates flammable hydrogen gas. Do not allow runoff to enter waterways.

5.3 Advice for firefighters

Special Protective Equipment for Fire-Fighters

Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

6. Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Use appropriate protective equipment.
See Section 8 for additional information

6.2 Environmental precautions

Prevent from entering sewers, waterways, or low areas.

6.3 Methods and material for containment and cleaning up

Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. Scoop up and remove.

6.4 Reference to other sections

See Section 8 and 13 for additional information.

7. Handling and Storage

7.1 Precautions for Safe Handling

Wash hands after use. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Launder contaminated clothing before reuse.

Hygiene Measures

Handle in accordance with good industrial hygiene and safety practice

7.2 Conditions for safe storage, including any incompatibilities

Store away from alkalis. Store in a cool well ventilated area. Keep container closed when not in use.

7.3 Specific End Use(s)

Exposure Scenario	No information available
Other Guidelines	No information available

8. Exposure Controls/Personal Protection

8.1 Control parameters

Exposure Limits

Substances	CAS Number	EU	UK OEL	Netherlands	France OEL
Hydrochloric acid	7647-01-0	Not applicable	STEL: 5 ppm STEL: 8 mg/m³ TWA: 1 ppm TWA: 2 mg/m³	TWA: 8 mg/m³ STEL: 15 mg/m³	Not applicable

Substances	CAS Number	Germany MAK/TRK	Spain	Portugal	Finland
Hydrochloric acid	7647-01-0	TWA: 2 ppm TWA: 3 mg/m³ MAK: 2 ppm MAK: 3.0 mg/m³	10 ppm VLA-EC; 15 mg/m³ VLA-EC VLA-ED: 5 ppm VLA-ED: 7.6 mg/m³	Not applicable	STEL: 5 ppm STEL: 7.6 mg/m³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Hydrochloric acid	7647-01-0	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Hydrochloric acid	7647-01-0	STEL: 10 ppm STEL: 15 mg/m³ TWA: 5 ppm TWA: 8 mg/m³	NDSCh: 10 mg/m³ NDS: 5 mg/m³	TWA: 8 mg/m³ STEL: 16 mg/m³	TWA: 8 mg/m³

Substances	CAS Number	Denmark
Hydrochloric acid	7647-01-0	Not applicable

Derived No Effect Level (DNEL)

Worker

Substances	Long-term exposure - systemic effects, Inhalation	Acute / short term exposure - systemic effects, Inhalation	Long-term exposure - local effects, Inhalation	Acute / short term exposure - local effects, Inhalation	Long-term exposure - systemic effects, Dermal	Acute / short term exposure - systemic effects, Dermal	Long-term exposure - local effects, Dermal	Acute / short term exposure - local effects, Dermal	Hazards for the eyes - local effects
Hydrochloric acid	Not available	Not available	8 mg/m³	15 mg/m³	Not available	Not available	Not available	Not available	Not available

General Population

Predicted No Effect Concentration (PNEC) No information available.

Substances	Freshwater	Marine water	Intermittent release	Sewage treatment plant	Sediment (freshwater)	Sediment (marine water)	Air	Soil	Secondary poisoning
Hydrochloric acid	36 ug/L	36 ug/L	45 ug/L	36 ug/L	Not available	Not available	Not available	Not available	Not available

8.2 Exposure controls

Engineering Controls Use in a well ventilated area. Local exhaust ventilation should be used in areas without good cross ventilation.

Personal protective equipment

Respiratory Protection Acid gas respirator.

Hand Protection Impervious rubber gloves.

Skin Protection Full protective chemical resistant clothing. Rubber boots.

Eye Protection Chemical goggles; also wear a face shield if splashing hazard exists.

Other Precautions Eyewash fountains and safety showers must be easily accessible.

Environmental Exposure Controls No information available

9. Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

Physical State: Liquid
Color: Clear colorless
Odor: Pungent acrid
Odor Threshold: No information available

Property	Values	Remarks/ - Method

pH:	0.8
Freezing Point/Range	-46 °C
Melting Point/Range	No data available
Boiling Point/Range	110 °C
Flash Point	No data available
Evaporation rate	No data available
Vapor Pressure	26 mmHg
Vapor Density	No data available
Specific Gravity	1.16
Water Solubility	Soluble in water
Solubility in other solvents	No data available
Partition coefficient: n-octanol/water	No data available
Autoignition Temperature	No data available
Decomposition Temperature	No data available
Viscosity	No data available
Explosive Properties	No information available
Oxidizing Properties	No information available

9.2 Other information

VOC Content (%)	No data available

10. Stability and Reactivity

10.1 Reactivity
Not applicable
10.2 Chemical Stability
Stable
10.3 Possibility of Hazardous Reactions
Will Not Occur
10.4 Conditions to Avoid
None anticipated
10.5 Incompatible Materials
Strong alkalis.
10.6 Hazardous Decomposition Products
Flammable hydrogen gas. Chlorine. Hydrogen sulfide.

11. Toxicological Information

11.1 Information on Toxicological Effects

Acute Toxicity

Inhalation	Causes severe respiratory irritation.
Eye Contact	May cause eye burns.
Skin Contact	May cause skin burns.
Ingestion	Causes burns of the mouth, throat and stomach.

Chronic Effects/Carcinogenicity Prolonged, excessive exposure may cause erosion of the teeth.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Hydrochloric acid	7647-01-0	No data available	5010 mg/kg (Rabbit) >5010 mg/kg (Rabbit) 1449 mg/kg (Mouse)	3124 ppm (Rat) 1 h 3.2 mg/L (Mouse) 8.3 mg/L (aerosol, Rat) 1405 ppm (Rat) 554 ppm (Mouse)

Substances	CAS Number	Skin corrosion/irritation
Hydrochloric acid	7647-01-0	Causes severe burns

Substances	CAS Number	Eye damage/irritation
Hydrochloric acid	7647-01-0	Causes severe burns

Substances	CAS Number	Skin Sensitization
Hydrochloric acid	7647-01-0	Did not cause sensitization on laboratory animals (guinea pig)

Substances	CAS Number	Respiratory Sensitization
Hydrochloric acid	7647-01-0	No information available

Substances	CAS Number	Mutagenic Effects
Hydrochloric acid	7647-01-0	Not regarded as mutagenic.

Substances	CAS Number	Carcinogenic Effects
Hydrochloric acid	7647-01-0	Did not show carcinogenic effects in animal experiments

Substances	CAS Number	Reproductive toxicity
Hydrochloric acid	7647-01-0	Embryo and fetotoxicity has been observed in female rats exposed to maternally toxic levels of hydrogen chloride (450 mg/m^3, 1hr.).

Substances	CAS Number	STOT - single exposure
Hydrochloric acid	7647-01-0	Causes severe respiratory irritation.

Substances	CAS Number	STOT - repeated exposure
Hydrochloric acid	7647-01-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Hydrochloric acid	7647-01-0	Not applicable

12. Ecological Information

12.1 Toxicity

Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Hydrochloric acid	7647-01-0	EC50: 4.7 (pH) (Chlorella vulgaris) 72 h	LC50: 282 mg/L (Gambusia affinis) LC50: 20.5 mg/L (Lepomis macrochirus) LC50: 3.25 – 3.5 (pH) (Lepomis macrochirus) 96 h	EC50(3h): >= 5 and <= 5.5 (pH) (Activated sludge, domestic)	EC50: 4.9 (pH) (Daphnia magna) 48 h

12.2 Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Hydrochloric acid	7647-01-0	The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrochloric acid	7647-01-0	0.25

12.4 Mobility in soil

No information available

12.5 Results of PBT and vPvB assessment

No information available.

12.6 Other adverse effects

Endocrine Disruptor Information
This product does not contain any known or suspected endocrine disruptors

13. Disposal Considerations

13.1 Waste treatment methods

Disposal Method Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging Follow all applicable national or local regulations.

14. Transport Information

IMDG/IMO

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
EMS: EmS F-A, S-B

RID

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

ADR

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

IATA/ICAO

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

Special Precautions for User None
Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable

15. Regulatory Information

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

International Inventories

EINECS Inventory This product, and all its components, complies with EINECS
US TSCA Inventory All components listed on inventory or are exempt.
Canadian DSL Inventory All components listed on inventory or are exempt.

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

Germany, Water Endangering Classes (WGK) WGK 1: Low hazard to waters.

15.2 Chemical Safety Assessment
No information available

16. Other Information

Full text of R-phrases referred to under Sections 2 and 3

R34 Causes burns.
R36/37/38 Irritating to eyes, respiratory system and skin.
R37 Irritating to respiratory system.

Full text of H-Statements referred to under sections 2 and 3
H314 - Causes severe skin burns and eye damage
H335 - May cause respiratory irritation

Key literature references and sources for data
www.ChemADVISOR.com/

Revision Date: 24-Apr-2014
Revision Note
Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 453/2010

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End of Safety Data Sheet