

SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

Hydrochloric Acid with KCl, FE-1, FE-2, BDF-443, and Scaletreat 852NW

Revision Date: 10-Jul-2014

Revision Number: 2

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

1.1. Product Identifier

Product Name Hydrochloric Acid with KCl, FE-1, FE-2, BDF-443, and Scaletreat 852NW

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

Recommended Use Additive

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

SECTION 2: Hazards Identification

2.1. Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Skin Corrosion / irritation	Category 1 - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318

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 C - Corrosive.**Risk Phrases** R34 Causes burns.

2.2. Label Elements

Hazard Pictograms

**Signal Word** Danger

Hazard Statements

H314 - Causes severe skin burns and eye damage

H318 - Causes serious eye damage

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

P280 - Wear protective gloves/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/shower

P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

P310 - Immediately call a POISON CENTER or doctor/physician

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Contains

Substances

Hydrochloric acid

Acetic acid

CAS Number

7647-01-0

64-19-7

2.3. Other Hazards

None known

SECTION 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	5 - 10%	C; R34 Xi; R37	Skin Corr. 1B (H314) Eye Dam. 1 (H318) STOT SE 3 (H335) Met. Corr. 1 (H290)	01-2119484862-27
Acetic acid	200-580-7	64-19-7	5 - 10%	R10 C; R35	Skin Corr. 1A (H314) Flam. Liq. 3 (H226)	No data available

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

3.1. Substances

Not applicable

3.2. Mixtures

Mixture

SECTION 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 eye and skin burns.

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

Notes to Physician Treat symptomatically

SECTION 5: Firefighting Measures

5.1. Extinguishing media

Suitable Extinguishing Media

All standard fire fighting media

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

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.

SECTION 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.

SECTION 7: Handling and Storage

7.1. Precautions for Safe Handling

Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Wash hands after use. 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

SECTION 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/m ³ TWA: 1 ppm TWA: 2 mg/m ³	TWA: 8 mg/m ³ STEL: 15 mg/m ³	Not applicable
Acetic acid	64-19-7	10 ppm	Not applicable	Not applicable	10 ppm

Substances	CAS Number	Germany MAK/TRK	Spain	Portugal	Finland
Hydrochloric acid	7647-01-0	TWA: 2 ppm TWA: 3 mg/m ³ MAK: 2 ppm MAK: 3.0 mg/m ³	10 ppm VLA-EC; 15 mg/m ³ VLA-EC VLA-ED: 5 ppm VLA-ED: 7.6 mg/m ³	Not applicable	STEL: 5 ppm STEL: 7.6 mg/m ³
Acetic acid	64-19-7	TWA: 10 ppm TWA: 25 mg/m ³ MAK: 10 ppm MAK: 25 mg/m ³	15 ppm VLA-EC; 37 mg/m ³ VLA-EC VLA-ED: 10 ppm VLA-ED: 25 mg/m ³	STEL: 15 ppm TWA: 10 ppm	STEL: 10 ppm STEL: 25 mg/m ³ TWA: 5 ppm TWA: 13 mg/m ³

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Hydrochloric acid	7647-01-0	Not applicable	Not applicable	Not applicable	Not applicable
Acetic acid	64-19-7	Not applicable	Not applicable	Not applicable	STEL: 20 ppm STEL: 37.5 mg/m ³ TWA: 10 ppm TWA: 25 mg/m ³

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Hydrochloric acid	7647-01-0	STEL: 10 ppm STEL: 15 mg/m ³ TWA: 5 ppm TWA: 8 mg/m ³	NDSch: 10 mg/m ³ NDS: 5 mg/m ³	TWA: 8 mg/m ³ STEL: 16 mg/m ³	TWA: 8 mg/m ³
Acetic acid	64-19-7	10 ppm	NDSch: 30 mg/m ³ NDS: 15 mg/m ³	TWA: 25 mg/m ³ STEL: 25 mg/m ³	TWA: 25 mg/m ³

Substances	CAS Number	Denmark
Hydrochloric acid	7647-01-0	Not applicable
Acetic acid	64-19-7	TWA: 10 ppm TWA: 25 mg/m ³

Derived No Effect Level (DNEL)

No information available.

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/m ³	15 mg/m ³	Not available	Not available	Not available	Not available	Not available
Acetic acid	Not available	Not available	25 mg/m ³	25 mg/m ³	Not available	Not available	Not available	Not available	Not available

General Population

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	Long-term exposure - systemic effects, Oral	Acute / short term exposure - local effects, Oral	Hazards for the eyes - local effects
Acetic acid	Not available	Not available	25 mg/m ³	25 mg/m ³	Not available	Not available	Not available	Not available	Not available	Not available	Not available

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
Acetic acid	3.06 mg/l	0.306 mg/l	30.58 mg/l	85 mg/l	11.4 mg/kg	1.14 mg/kg	Not available	0.478 mg/kg	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

Rubber boots. Full protective chemical resistant clothing.

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

SECTION 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

No data available

Melting Point/Range

No data available

Boiling Point/Range

No data available

Flash Point

No data available

Evaporation rate

No data available

Vapor Pressure

No data available

Vapor Density

No data available

Specific Gravity

No data available

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

SECTION 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.

SECTION 11: Toxicological Information**11.1. Information on Toxicological Effects****Acute Toxicity**

Inhalation

Causes severe respiratory irritation.

Eye Contact	Causes severe eye irritation May cause eye burns.
Skin Contact	Causes severe skin irritation. 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)
Acetic acid	64-19-7	3310 mg/kg (Rat) 600 mg/kg (Rabbit) 4960 mg/kg (Mouse)	1060 mg/kg (Rabbit)	11.4 mg/L (Rat) 4 h

Substances	CAS Number	Skin corrosion/irritation
Hydrochloric acid	7647-01-0	Causes severe burns
Acetic acid	64-19-7	Corrosive to skin

Substances	CAS Number	Eye damage/irritation
Hydrochloric acid	7647-01-0	Causes severe burns
Acetic acid	64-19-7	Corrosive to eyes

Substances	CAS Number	Skin Sensitization
Hydrochloric acid	7647-01-0	Did not cause sensitization on laboratory animals (guinea pig)
Acetic acid	64-19-7	No information available

Substances	CAS Number	Respiratory Sensitization
Hydrochloric acid	7647-01-0	No information available
Acetic acid	64-19-7	No information available

Substances	CAS Number	Mutagenic Effects
Hydrochloric acid	7647-01-0	Not regarded as mutagenic.
Acetic acid	64-19-7	In vivo tests did not show mutagenic effects. In vitro tests did not show mutagenic effects

Substances	CAS Number	Carcinogenic Effects
Hydrochloric acid	7647-01-0	Did not show carcinogenic effects in animal experiments
Acetic acid	64-19-7	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.).
Acetic acid	64-19-7	Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Hydrochloric acid	7647-01-0	Causes severe respiratory irritation.
Acetic acid	64-19-7	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	STOT - repeated exposure
Hydrochloric acid	7647-01-0	No significant toxicity observed in animal studies at concentration requiring classification.
Acetic acid	64-19-7	No significant toxicity observed in animal studies at concentration requiring classification. Not applicable due to corrosivity of the substance.

Substances	CAS Number	Aspiration hazard
Hydrochloric acid	7647-01-0	Not applicable
Acetic acid	64-19-7	Not applicable

SECTION 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
Acetic acid	64-19-7	EC50: 90 mg/L (Microcystis aeruginosa) EC50(72h): > 1000 mg/L (>300.82 mg/L – acetate ion) (Skeletonea costatum)	LC50: 79 mg/l (Pimephales promelas) LC50: 75 mg/l (Pimephales promelas) LC50(96h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Oncorhynchus mykiss)	NOEC(16h): 1150 mg/L (Pseudomonas putida)	EC50: 47 mg/l (Daphnia magna) LC50: 32 mg/L (Artemia salina) EC50(48h) > 1000 mg/L (>300.82 mg/L – acetate ion) (Daphnia magna) NOEC(21d): 31.4 - 37.9 mg/L (Daphnia magna) (reproduction)

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.
Acetic acid	64-19-7	Readily biodegradable ($>95\%$ @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrochloric acid	7647-01-0	0.25
Acetic acid	64-19-7	-0.17 BCF 3.16 (Calculated)

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

SECTION 13: Disposal Considerations**13.1. Waste treatment methods****Disposal Method****Contaminated Packaging**Disposal should be made in accordance with federal, state, and local regulations.
Follow all applicable national or local regulations.**SECTION 14: Transport Information**

IMDG/IMO

UN Number: UN3264
UN Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
EMS: EmS F-A, S-B

RID

UN Number: UN3264
UN Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

ADR

UN Number: UN3264
UN Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

IATA/ICAO

UN Number: UN3264
UN Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Acid)
Transport Hazard Class(es): 8
Packing Group: II
Environmental hazard: Not applicable

14.1. UN Number: UN3264

14.2. UN Proper Shipping Name: Corrosive Liquid, Acidic, Inorganic, N.O.S. (Contains Hydrochloric Acid, Acetic Acid)

14.3. Transport Hazard Class(es): 8

14.4. Packing Group: II

14.5. Environmental Hazards: Not applicable

14.6. Special Precautions for User: None

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code: Not applicable

SECTION 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/NDL - 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

SECTION 16: Other Information

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

R10 Flammable.

R34 Causes burns.

R35 Causes severe burns.

R37 Irritating to respiratory system.

Key literature references and sources for data

www.ChemADVISOR.com/

Revision Date: 10-Jul-2014

Revision Note

Not applicable

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

Disclaimer Statement

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End of Safety Data Sheet