

SAFETY DATA SHEET

CARBONATE SPECIAL SOLUTIONS ACID

Product Trade Name:**Revision Date:** 23-Jun-2015**Revision Number:** 7**1. Identification****1.1. Product Identifier**

Product Trade Name: CARBONATE SPECIAL SOLUTIONS ACID
Synonyms: None
Chemical Family: Inorganic acid
Internal ID Code HM004955

1.2 Recommended use and restrictions on use

Application: Acid
Uses Advised Against No information available

1.3 Manufacturer's Name and Contact Details

Manufacturer/Supplier Halliburton Energy Services Inc.
P.O. Box 1431
Duncan, Oklahoma 73536-0431
Emergency Telephone: (281) 575-5000

Prepared By Chemical Stewardship
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

1.4. Emergency telephone number

Emergency Telephone Number (281) 575-5000

2. Hazard(s) Identification**2.1 Classification in accordance with paragraph (d) of §1910.1200**

Skin Corrosion / Irritation	Category 1 B - H314
Serious Eye Damage / Eye Irritation	Category 1 - H318
Skin Sensitization	Category 1 - H317
Substances/mixtures corrosive to metal	Category 1 - H290

2.2. Label Elements**Hazard Pictograms****Signal Word**

Danger

Hazard Statements

H290 - May be corrosive to metals
 H314 - Causes severe skin burns and eye damage
 H317 - May cause an allergic skin reaction
 H318 - Causes serious eye damage

Precautionary Statements**Prevention**

P234 - Keep only in original container
 P260 - Do not breathe dust/fume/gas/mist/vapors/spray
 P264 - Wash face, hands and any exposed skin thoroughly after handling
 P272 - Contaminated work clothing should not be allowed out of the workplace
 P280 - Wear protective gloves/protective clothing/eye protection/face protection

Response

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
 P363 - Wash contaminated clothing before reuse
 P304 + P340 - IF INHALED: Remove victim 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
 P390 - Absorb spillage to prevent material damage

Storage

P405 - Store locked up
 P406 - Store in corrosive resistant container with a resistant inner liner.

Disposal

P501 - Dispose of contents/container in accordance with local/regional/national/international regulations

Contains**Substances**

Hydrochloric acid
 Hexamethylenetetramine

CAS Number

7647-01-0
 100-97-0

2.3 Hazards not otherwise classified

None known

3. Composition/information on Ingredients

Substances	CAS Number	PERCENT (w/w)	GHS Classification - US
Hydrochloric acid	7647-01-0	10 - 30%	Skin Corr. 1B (H314) Eye Corr. 1 (H318) STOT SE 3 (H335) Met. Corr. 1 (H290)
Hexamethylenetetramine	100-97-0	0.1 - 1%	Skin Sens. 1 (H317) Flam. Sol. 2 (H228)

The exact percentage (concentration) of the composition has been withheld as proprietary.

4. First-Aid Measures**4.1. Description of first aid measures**

Inhalation	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
Eyes	Immediately flush eyes with large amounts of water for at least 30 minutes. Seek prompt medical attention.
Skin	In case of contact, immediately flush skin with plenty of soap and water for at least 30 minutes and remove contaminated clothing, shoes and leather goods immediately. Get medical attention immediately.
Ingestion	Do NOT induce vomiting. Give nothing by mouth. Obtain immediate medical attention.

4.2 Most important symptoms/effects, acute and delayed

Causes severe eye irritation which may damage tissue. Causes severe skin irritation with tissue destruction. May cause allergic skin reaction.

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

Notes to Physician	Treat symptomatically.
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5. Fire-fighting 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 Specific hazards arising from the substance or mixture**Special Exposure Hazards**

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

5.3 Special protective equipment and precautions for fire-fighters**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.

7. Handling and storage**7.1. Precautions for Safe Handling****Handling Precautions**

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

Storage Information

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

8. Exposure Controls/Personal Protection**8.1 Occupational Exposure Limits**

Substances	CAS Number	OSHA PEL-TWA	ACGIH TLV-TWA
Hydrochloric acid	7647-01-0	TWA: 5 ppm (Ceiling)	TWA: 2 ppm (Ceiling)
Hexamethylenetetramine	100-97-0	Not applicable	Not applicable

8.2 Appropriate engineering controls

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

8.3 Individual protection measures, such as personal protective equipment

Personal Protective Equipment If engineering controls and work practices cannot prevent excessive exposures, the selection and proper use of personal protective equipment should be determined by an industrial hygienist or other qualified professional based on the specific application of this product.

Respiratory Protection Organic vapor/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.

9. Physical and Chemical Properties**9.1. Information on basic physical and chemical properties**

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

Property	Values
Remarks/ - Method	
pH:	1
Freezing Point/Range	No data available
Melting Point/Range	No data available
Boiling Point/Range	No data available
Flash Point	No data available
Flammability (solid, gas)	No data available
upper flammability limit	No data available
lower flammability limit	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	Miscible with 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 expected to be reactive.

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 likely routes of exposure****Principle Route of Exposure** Eye or skin contact, inhalation.**11.2 Symptoms related to the physical, chemical and toxicological characteristics****Acute Toxicity****Inhalation**

May cause respiratory irritation.

Eye Contact

Causes severe eye irritation. Will damage tissue.

Skin Contact

Causes severe skin irritation with tissue destruction. May cause an allergic skin reaction.

Ingestion

May cause abdominal pain, vomiting, nausea, and diarrhea.

Chronic Effects/Carcinogenicity Prolonged, excessive exposure may cause erosion of the teeth.**11.3 Toxicity data****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 mg/L (Rat) 1h 3.2 mg/L (Mouse) 8.3 mg/L (Rat) 1405 mg/L (Rat) 554 mg/L (Mouse)
Hexamethylenetetramine	100-97-0	9200 mg/kg (Rat) >20,000 mg/kg (Rat)	> 2000 mg/kg (Rat)	No data available

Substances	CAS Number	Skin corrosion/irritation
Hydrochloric acid	7647-01-0	Causes severe burns
Hexamethylenetetramine	100-97-0	Not irritating to skin in rabbits.

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

Hexamethylenetetramine	100-97-0	Non-irritating to rabbit's eye
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Substances	CAS Number	Skin Sensitization
Hydrochloric acid	7647-01-0	Did not cause sensitization on laboratory animals (guinea pig)
Hexamethylenetetramine	100-97-0	May cause sensitization by skin contact (guinea pig) (mouse)

Substances	CAS Number	Respiratory Sensitization
Hydrochloric acid	7647-01-0	No information available
Hexamethylenetetramine	100-97-0	No data of sufficient quality are available.

Substances	CAS Number	Mutagenic Effects
Hydrochloric acid	7647-01-0	Not regarded as mutagenic.
Hexamethylenetetramine	100-97-0	While some in vitro tests were positive and/or equivocal, in vivo results were negative.

Substances	CAS Number	Carcinogenic Effects
Hydrochloric acid	7647-01-0	No data of sufficient quality are available.
Hexamethylenetetramine	100-97-0	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.).
Hexamethylenetetramine	100-97-0	Animal testing did not show any effects on fertility. Did not show teratogenic effects in animal experiments.

Substances	CAS Number	STOT - single exposure
Hydrochloric acid	7647-01-0	May cause respiratory irritation.
Hexamethylenetetramine	100-97-0	No information available

Substances	CAS Number	STOT - repeated exposure
Hydrochloric acid	7647-01-0	No significant toxicity observed in animal studies at concentration requiring classification.
Hexamethylenetetramine	100-97-0	No significant toxicity observed in animal studies at concentration requiring classification.

Substances	CAS Number	Aspiration hazard
Hydrochloric acid	7647-01-0	Not applicable
Hexamethylenetetramine	100-97-0	Not applicable

12. Ecological Information

12.1. Toxicity

Ecotoxicity Effects

Product Ecotoxicity Data

No data available

Substance Ecotoxicity Data

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Hydrochloric acid	7647-01-0	No information available	LC50 282 mg/L (Gambusia affinis) LC50 20.5 mg/L (Lepomis macrochirus) LC50 (96h) 3.25 – 3.5 (pH) (Lepomis macrochirus)	EC50 (3h) >= 5 and <= 5.5 (pH) (Activated sludge, domestic)	EC50 (48h) 4.9 (pH) (Daphnia magna)

Hexamethylenetetramine	100-97-0	EC50 (72h) 2773.12 mg/L (Skeletonema costatum) EC50 (14d) 3000 mg/L (Pseudokirchnerella subcapitata)	TLM96 49800 mg/L (Pimephales promelas) LC50 (96h) 44600 - 55600 mg/L (Pimephales promelas) LC50 (96h) > 1800 mg/L (Scophthalmus maximus) LC50 (96h) 41000 mg/L (Lepomis macrochirus) LC50 (96h) 49000 (Cyprinoon variegatus)	No information available	TLM48 3600 mg/L (Daphnia magna) EC50 (48h) 29868 - 43390 mg/L (Daphnia magna) LC50 (48h) 36000 mg/L (Daphnia magna) LC50 (48h) 10000 mg/L (Acartia tonsa)
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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.
Hexamethylenetetramine	100-97-0	(35% @ 28d)

12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Hydrochloric acid	7647-01-0	0.25
Hexamethylenetetramine	100-97-0	-4.15

12.4. Mobility in soil

Substances	CAS Number	Mobility
Hydrochloric acid	7647-01-0	No information available
Hexamethylenetetramine	100-97-0	KOC = 55

12.5 Other adverse effects

No information available

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**US DOT**

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Hydrochloric Acid - 15153 kg.)
NAERG: NAERG 157

US DOT Bulk

DOT (Bulk) Not applicable

Canadian TDG

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution

Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable

IMDG/IMO

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Hydrochloric Acid - 15153 kg.)
EMS: EmS F-A, S-B

IATA/ICAO

UN Number: UN1789
UN Proper Shipping Name: Hydrochloric Acid Solution
Transport Hazard Class(es): 8
Packing Group: II
Environmental Hazards: Not applicable
Reportable Quantity: RQ (Hydrochloric Acid - 15153 kg.)

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

Special Precautions for User: None

15. Regulatory Information

US Regulations

US TSCA Inventory	All components listed on inventory or are exempt.
EPA SARA Title III Extremely Hazardous Substances	Not applicable
EPA SARA (311,312) Hazard Class	Acute Health Hazard
EPA SARA (313) Chemicals	This product does not contain a toxic chemical for routine annual "Toxic Chemical Release Reporting" under Section 313 (40 CFR 372).
EPA CERCLA/Superfund Reportable Spill Quantity	EPA Reportable Spill Quantity is 3809 Gallons based on Hydrochloric acid (CAS: 7647-01-0).
EPA RCRA Hazardous Waste Classification	If product becomes a waste, it does meet the criteria of a hazardous waste as defined by the US EPA, because of: Corrosivity D002
California Proposition 65	All components listed do not apply to the California Proposition 65 Regulation.
MA Right-to-Know Law	One or more components listed.
NJ Right-to-Know Law	One or more components listed.
PA Right-to-Know Law	One or more components listed.

Canadian Regulations

Canadian DSL Inventory All components listed on inventory or are exempt.

16. Other information

Preparation Information

Prepared By Chemical Stewardship
Telephone: 1-580-251-4335
e-mail: fdunexchem@halliburton.com

Revision Date: 23-Jun-2015

Reason for Revision SDS sections updated:
2

Additional information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Stewardship at 1-580-251-4335.

Key or legend to abbreviations and acronyms

bw – body weight
CAS – Chemical Abstracts Service
EC50 – Effective Concentration 50%
ErC50 – Effective Concentration growth rate 50%
LC50 – Lethal Concentration 50%
LD50 – Lethal Dose 50%
LL50 – Lethal Loading 50%
mg/kg – milligram/kilogram
mg/L – milligram/liter
NIOSH – National Institute for Occupational Safety and Health
NTP – National Toxicology Program
OEL – Occupational Exposure Limit
PEL – Permissible Exposure Limit
ppm – parts per million
STEL – Short Term Exposure Limit
TWA – Time-Weighted Average
UN – United Nations
h - hour
mg/m³ - milligram/cubic meter
mm - millimeter
mmHg - millimeter mercury
w/w - weight/weight
d - day

Key literature references and sources for data

OSHA
ECHA C&L
www.ChemADVISOR.com/

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End of Safety Data Sheet