

**MATERIAL SAFETY DATA SHEET****Product Trade Name:** **CleanBreak HT****Revision Date:** 25-Sep-2014**1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION****Product Trade Name:** CleanBreak HT**Synonyms:** None**Chemical Family:** Organic acid**Application:** Additive**Manufacturer/Supplier** Halliburton Energy Services, Inc.

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**2. COMPOSITION/INFORMATION ON INGREDIENTS**

<b>Substances</b>	<b>CAS Number</b>	<b>PERCENT (w/w)</b>	<b>ACGIH TLV-TWA</b>	<b>OSHA PEL-TWA</b>
Citric acid	77-92-9	30 - 60%	Not applicable	Not applicable

**3. HAZARDS IDENTIFICATION****Hazard Overview** May cause eye irritation**4. FIRST AID MEASURES**

<b>Inhalation</b>	If inhaled, remove from area to fresh air. Get medical attention if respiratory irritation develops or if breathing becomes difficult.
<b>Skin</b>	Wash with soap and water. Get medical attention if irritation persists.
<b>Eyes</b>	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.
<b>Ingestion</b>	If swallowed, do NOT induce vomiting. Give victim two glasses of water, Call a physician immediately. Never give anything by mouth to an unconscious person.
<b>Notes to Physician</b>	Not Applicable

## 5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	Not Determined	Min: > 300
Flash Point/Range (C):	Not Determined	Min: > 148
Flash Point Method:	Not Determined	
Autoignition Temperature (F):	Not Determined	
Autoignition Temperature (C):	Not Determined	
Flammability Limits in Air - Lower (%):	Not Determined	
Flammability Limits in Air - Lower (oz./ft <sup>3</sup> ):	Not Determined	
Flammability Limits in Air - Upper (%):	Not Determined	
Flammability Limits in Air - Upper (oz./ft <sup>3</sup> ):	Not Determined	
Fire Extinguishing Media	Water fog, carbon dioxide, foam, dry chemical.	
Special Exposure Hazards	Decomposition in fire may produce toxic gases.	
Special Protective Equipment for Fire-Fighters	Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.	
NFPA Ratings:	Health 1, Flammability 1, Reactivity 0	
HMIS Ratings:	Health 1, Flammability 1, Physical Hazard 0 , PPE: B	

## 6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures	Use appropriate protective equipment.
Environmental Precautionary Measures	Prevent from entering sewers, waterways, or low areas.
Procedure for Cleaning / Absorption	Scoop up and remove.

## 7. HANDLING AND STORAGE

Handling Precautions	Slippery when wet. Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Wash hands after use. Launder contaminated clothing before reuse.
Storage Information	Store away from oxidizers. Keep container closed when not in use. Product has a shelf life of 24 months.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls	Use in a well ventilated area.
Respiratory Protection	If engineering controls and work practices cannot keep exposure below occupational exposure limits or if exposure is unknown, wear a NIOSH certified, European Standard EN 149, AS/NZS 1715:2009, or equivalent respirator when using this product. Selection of and instruction on using all personal protective equipment, including respirators, should be performed by an Industrial Hygienist or other qualified professional. Not normally necessary.
Hand Protection	Normal work gloves.
Skin Protection	Normal work coveralls.

**Eye Protection** Wear safety glasses or goggles to protect against exposure.

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

## 9. PHYSICAL AND CHEMICAL PROPERTIES

<b>Physical State:</b>	Powder
<b>Color:</b>	Off white
<b>Odor:</b>	Odorless
<b>pH:</b>	Not Determined
<b>Specific Gravity @ 20 C (Water=1):</b>	Not Determined
<b>Density @ 20 C (lbs./gallon):</b>	Not Determined
<b>Bulk Density @ 20 C (lbs/ft3):</b>	Not Determined
<b>Boiling Point/Range (F):</b>	Not Determined
<b>Boiling Point/Range (C):</b>	Not Determined
<b>Freezing Point/Range (F):</b>	Not Determined
<b>Freezing Point/Range (C):</b>	Not Determined
<b>Vapor Pressure @ 20 C (mmHg):</b>	Not Determined
<b>Vapor Density (Air=1):</b>	Not Determined
<b>Percent Volatiles:</b>	Not Determined
<b>Evaporation Rate (Butyl Acetate=1):</b>	Not Determined
<b>Solubility in Water (g/100ml):</b>	Partially soluble
<b>Solubility in Solvents (g/100ml):</b>	Not Determined
<b>VOCs (lbs./gallon):</b>	Not Determined
<b>Viscosity, Dynamic @ 20 C (centipoise):</b>	Not Determined
<b>Viscosity, Kinematic @ 20 C (centistokes):</b>	Not Determined
<b>Partition Coefficient/n-Octanol/Water:</b>	Not Determined
<b>Molecular Weight (g/mole):</b>	Not Determined

## 10. STABILITY AND REACTIVITY

**Stability Data:** Stable

**Hazardous Polymerization:** Will Not Occur

**Conditions to Avoid** None anticipated

**Incompatibility (Materials to Avoid)** Strong oxidizers.

**Hazardous Decomposition Products** Carbon monoxide and carbon dioxide.

**Additional Guidelines** Not Applicable

## 11. TOXICOLOGICAL INFORMATION

**Principle Route of Exposure** Eye or skin contact, inhalation.

### Symptoms related to exposure

#### **Acute Toxicity**

**Inhalation** May cause mild respiratory irritation.

**Eye Contact** May cause eye irritation

**Skin Contact** None known.

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

**Chronic Effects/Carcinogenicity** No data available to indicate product or components present at greater than 1% are chronic health hazards.

#### Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Citric acid	77-92-9	3000 mg/kg (Rat) 11,700 mg/kg (Rat) 5400 mg/kg (Mouse)	> 2000 mg/kg	No data available

## 12. ECOLOGICAL INFORMATION

#### Ecotoxicological Information

##### Ecotoxicity Product

**Acute Fish Toxicity:** Not determined  
**Acute Crustaceans Toxicity:** Not determined  
**Acute Algae Toxicity:** Not determined

##### Ecotoxicity Substance

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Citric acid	77-92-9	NOEC(8d): 425 mg/L (cell density) (Scenedesmus quadricauda)	LC50: 1516 mg/L (Lepomis macrochirus) LC50(48h): 440 mg/L (Leuciscus idus melanotus)	TT(72h): 485 mg/L (Entosiphon sulcatum)	TLM96: 100-330 ppm (Crangon crangon) EC50(24h): 1535 mg/L (Daphnia magna)

#### 12.2. Persistence and degradability

No information available

Substances	CAS Number	Persistence and Degradability
Citric acid	77-92-9	Readily biodegradable (98% @ 28d)

#### 12.3. Bioaccumulative potential

Does not bioaccumulate

Substances	CAS Number	Log Pow
Citric acid	77-92-9	-1.61 to -1.80

#### 12.4. Mobility in soil

No information available

#### 12.5. Results of PBT and vPvB assessment

No information available.

#### 12.6. Other adverse effects

## 13. DISPOSAL CONSIDERATIONS

**Disposal Method** Bury in a licensed landfill according to federal, state, and local regulations.

**Contaminated Packaging** Follow all applicable national or local regulations.

## 14. TRANSPORT INFORMATION

#### US DOT

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable

**Packing Group:** Not applicable

**US DOT Bulk DOT (Bulk)** Not Applicable

**Canadian TDG u10**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

**IMDG/IMO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

**IATA/ICAO**

**UN Number:** Not restricted.  
**UN Proper Shipping Name:** Not restricted  
**Transport Hazard Class(es):** Not applicable  
**Packing Group:** Not applicable

**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** Not applicable.

**EPA RCRA Hazardous Waste Classification** If product becomes a waste, it does NOT meet the criteria of a hazardous waste as defined by the US EPA.

**California Proposition 65** All components listed do not apply to the California Proposition 65 Regulation.

**MA Right-to-Know Law** Does not apply.

**NJ Right-to-Know Law** Does not apply.

**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

**The following sections have been revised since the last issue of this SDS**

Not applicable

**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 Compliance at 1-580-251-4335.

**Disclaimer Statement**

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**\*\*\*END OF MSDS\*\*\***