

Material Safety Data Sheet

WIC 641L

HEALTH	2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

1. Product and Company Identification

Material name	WIC 641L
Patent Number	Not available
Revision date	October-28-2009
Version No.	3
Manufacturer information	WEATHERFORD INTERNATIONAL ENG.CHEM. 4420 SOUTH FLORES RD ELMENDORF, TX 78112 US Product Safety 210-626-0850 Chemtrec 800-424-9300
Emergency	Chemtrec 800-424-9300
Supplier information	Weatherford Fracturing Technologies 515 Post Oak Blvd Suite 1000 Houston, TX 77027 US

2. Hazards Identification

Emergency overview	DANGER -- CORROSIVE Causes burns. Causes severe irritation of eyes, skin and mucous membranes. This product may cause an allergic skin reaction. Do not get this material in contact with skin or eyes. May cause sensitization of susceptible persons. This product is not considered to be a carcinogen by IARC, ACGIH, NTP, or OSHA.
OSHA regulatory status	This product is considered hazardous under 29 CFR 1910.1200 (Hazard Communication).
Potential health effects	
Eyes	Avoid contact with eyes. Can cause severe eye irritation. Causes redness and pain.
Skin	Avoid contact with the skin. Contact with skin can cause irritation and allergic reaction (sensitization) in some individuals.
Inhalation	Avoid breathing vapors or mists of this product. Inhalation of vapors/fumes generated by heating this product may cause respiratory irritation with throat discomfort, coughing or difficulty breathing.
Ingestion	Do not ingest. Ingestion may cause nausea, vomiting, sore throat, stomach-ache and eventually lead to a perforation of the intestine. Ingestion may cause irritation to mucous membranes.
Potential environmental effects	May cause long-term adverse effects in the environment.

3. Composition / Information on Ingredients

Components	CAS #	Percent
Citric Acid	77-92-9	40 - 70

4. First Aid Measures

First aid procedures

Eye contact

Immediately flush eyes with plenty of water for at least 20 minutes. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes. Get medical attention if irritation develops or persists.

Inhalation

Move to fresh air. Oxygen or artificial respiration if needed. Induce artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Get medical attention immediately.

Ingestion

Have victim rinse mouth thoroughly with water. Drink plenty of water. Never give anything by mouth to an unconscious person. Do not induce vomiting without medical advice. If vomiting occurs naturally, have victim lean forward to reduce risk of aspiration. Get medical attention immediately.

General advice

If you feel unwell, seek medical advice (show the label where possible).

5. Fire Fighting Measures

Flammable properties

Not a fire hazard. The product is not flammable.

Extinguishing media**Suitable extinguishing media**

Water. Water spray. Foam. Dry chemical. Carbon dioxide (CO₂).

Protection of firefighters**Protective equipment and precautions for firefighters**

Use water spray to cool unopened containers. Cool containers with flooding quantities of water until well after fire is out. As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental Release Measures

Personal precautions

Local authorities should be advised if significant spillages cannot be contained. Keep people away from and upwind of spill/leak. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Keep unnecessary personnel away. Stay upwind. Keep out of low areas.

Environmental precautions

Prevent further leakage or spillage if safe to do so.

Methods for containment

Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use water spray to reduce vapors or divert vapor cloud drift. Prevent entry into waterways, sewers, basements or confined areas.

Methods for cleaning up

Should not be released into the environment.

Large Spills: Dike far ahead of liquid spill for later disposal. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. After removal flush contaminated area thoroughly with water.

Small Spills: Wipe up with absorbent material (e.g. cloth, fleece). Clean contaminated surface thoroughly.

Never return spills in original containers for re-use.

7. Handling and Storage

Handling	Keep away from heat, sparks and open flame - No smoking. Use only with adequate ventilation. Avoid release to the environment. Handle and open container with care. Wash thoroughly after handling.
Storage	Store in a closed container away from incompatible materials. Store in a cool and shaded area. Do not store in direct sunlight. Use care in handling/storage. Store in accordance with local/regional/national/international regulation.

8. Exposure Controls / Personal Protection

Engineering controls	Ensure adequate ventilation, especially in confined areas. Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower nearby.
Personal protective equipment	
Eye / face protection	Wear safety glasses with side shields (or goggles) and a face shield.
Skin protection	Where contact is likely, wear chemical-resistant gloves, a chemical suit, rubber boots, and chemical safety goggles plus a face shield. Wear appropriate chemical resistant gloves. Use impervious gloves.
Respiratory protection	When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. A NIOSH- approved air purifying respirator with an organic vapor cartridge or canister may be permissible under certain circumstances where airborne concentrations are expected to exceed exposure limits.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.

9. Physical & Chemical Properties

Appearance	Liquid.
Color	Colourless to yellowish.
Odor	Of sugar
Odor threshold	Not available
Physical state	Liquid.
Form	Liquid.
pH	< 2.5
Melting point	Not available
Freezing point	32 °F (0 °C)
Boiling point	219.2 °F (104 °C)
Flash point	Not available
Evaporation rate	Not available
Flammability	Not available.
Flammability limits in air, upper, % by volume	Not available
Flammability limits in air, lower, % by volume	Not available
Vapor pressure	16 mm Hg @ 20 C
Vapor density	0.62
Specific gravity	1.24 @ 15 C

Relative density	1.2399 g/cm ³ estimated
Solubility (water)	162g/100 ml water @ 25 C
Partition coefficient (n-octanol/water)	Not available
Auto-ignition temperature	941 °F (505 °C) estimated
Decomposition temperature	Not available
Viscosity	7 centipoises @ 25 C

10. Chemical Stability & Reactivity Information

Chemical stability	Stable at normal conditions.
Conditions to avoid	Avoid high temperatures. Exposure to moisture.
Incompatible materials	Amines. This product is incompatible with nitrates. Incompatible with strong bases and oxidizing agents. Corrodes base metals.
Hazardous decomposition products	Upon decomposition this product emits acrid dense smoke with carbon dioxide, carbon monoxide, water and other products of combustion.

11. Toxicological Information

Acute effects	Acute LD50: 6000 mg/kg estimated, Rat, Oral
Component analysis - LD50	
Toxicology Data - Selected LD50s and LC50s	
Citric Acid	77-92-9 Oral LD50 Rat: 3000 mg/kg
Sensitization	Not expected to be hazardous by OSHA criteria.
Chronic effects	Prolonged exposure causes local irritation of skin and mucous membranes, especially to the eyes.
Carcinogenicity	Not expected to be hazardous by OSHA criteria.
Neurological effects	Not expected to be hazardous by OSHA criteria.

12. Ecological Information

Ecotoxicity	LC50 3032 mg/L estimated, Fish, 96.00 Hours, Components of this product have been identified as having potential environmental concerns.
Ecotoxicity - Freshwater Fish Species Data	
Citric Acid	77-92-9 96 Hr LC50 Lepomis macrochirus: 1516 mg/L [static]; 96 Hr LC50 Leuciscus idus: 440 mg/L [static]
Ecotoxicity - Microtox Data	
Citric Acid	77-92-9 15 min EC50 Photobacterium phosphoreum: 14 mg/L
Ecotoxicity - Water Flea Data	
Citric Acid	77-92-9 72 Hr EC50 Daphnia magna: 120 mg/L
Environmental effects	
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13. Disposal Considerations

Disposal instructions

Do not allow this material to drain into sewers/water supplies. This product, in its present state, when discarded or disposed of, is not a hazardous waste according to Federal regulations (40 CFR 261.4 (b)(4)). Under RCRA, it is the responsibility of the user of the product to determine, at the time of disposal, whether the product meets RCRA criteria for hazardous waste. Dispose in accordance with all applicable regulations.

14. Transport Information

Department of Transportation (DOT) Requirements
Basic shipping requirements:

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Citric Acid)
Hazard class	8
UN number	UN3265
Packing group	III

Additional information:

Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241
ERG number	153


Department of Transportation (DOT) Requirements
Bulk
Basic shipping requirements:

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Citric Acid)
Hazard class	8
UN number	UN3265
Packing group	III

Additional information:

Special provisions	IB3, T7, TP1, TP28
Packaging exceptions	154
Packaging non bulk	203
Packaging bulk	241
ERG number	153



Canadian Transportation of Dangerous Goods (TDG) Requirements
Basic shipping requirements:

Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Citric Acid)
Hazard class	8
UN number	UN3265
Packing group	III
Additional information:	
Special provisions	16
ERG number	153


IMDG
Basic shipping requirements:

Proper shipping name	CORROSIVE LIQUID, ACIDIC, ORGANIC, N.O.S. (Citric Acid)
Hazard class	8
UN number	3265
Packing group	III


IATA
Basic shipping requirements:

Proper shipping name	Corrosive liquid, acidic, organic, n.o.s. (Citric Acid)
Hazard class	8
UN number	3265
Packing group	III



15. Regulatory Information

Labelling

Contains Citric Acid

US federal regulations

This product is a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard, 29 CFR 1910.1200.

All components are on the U.S. EPA TSCA Inventory List.

CERCLA/SARA Hazardous Substances - Not applicable.

FEMA (Flavor and Extract Manufacturers Association) - FEMA Numbers

Citric Acid 77-92-9 2306

U.S. - FDA - Direct Food Additives

Citric Acid 77-92-9 21 CFR 172.280

U.S. - FDA - Food Additives Generally Recognized as Safe (GRAS)

Citric Acid 77-92-9 21 CFR 184.1033

Occupational Safety and Health Administration (OSHA)

29 CFR 1910.1200 hazardous chemical Yes

Superfund Amendments and Reauthorization Act of 1986 (SARA)**Hazard categories**
Immediate Hazard - Yes
Delayed Hazard - Yes
Fire Hazard - No
Pressure Hazard - No
Reactivity Hazard - No**Section 302 extremely hazardous substance** No**Section 311 hazardous chemical** Yes**Inventory status**

Country(s) or region	Inventory name	On inventory (yes/no)*
Canada	Domestic Substances List (DSL)	Yes
Canada	Non-Domestic Substances List (NDSL)	No
Europe	European Inventory of New and Existing Chemicals (EINECS)	Yes
Europe	European List of Notified Chemical Substances (ELINCS)	No
United States & Puerto Rico	Toxic Substances Control Act (TSCA) Inventory	Yes

A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s)

International regulations**Canada - WHMIS - Ingredient Disclosure List**

Citric Acid 77-92-9 1 %

State regulations

This product does not contain a chemical known to the State of California to cause cancer, birth defects or other reproductive harm.

U.S. - Texas - Effects Screening Levels - Long Term

Citric Acid 77-92-9 10 µg/m3 ESL

U.S. - Texas - Effects Screening Levels - Short Term

Citric Acid 77-92-9 100 µg/m3 ESL

16. Other Information**HMIS® ratings**Health: 2
Flammability: 0
Physical hazard: 0**NFPA ratings**Health: 2
Flammability: 0
Instability: 0**Prepared by**Emilia Ugwu
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Disclaimer

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