

MATERIAL SAFETY DATA SHEET

Product Trade Name: DCA-31004

Revision Date: 09-Dec-2013

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: DCA-31004
Synonyms: None
Chemical Family: Organic hydrocarbon
Application: Solvent

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

Prepared By Chemical Compliance
Telephone: 1-580-251-4335
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT (w/w)	ACGIH TLV-TWA	OSHA PEL-TWA
Terpene hydrocarbon by-products	68956-56-9	60 - 100%	Not applicable	Not applicable

3. HAZARDS IDENTIFICATION

Hazard Overview May cause eye and skin irritation. Combustible.

4. 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.

Skin Wash with soap and water. Get medical attention if irritation persists.

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.

Ingestion Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration.

Notes to Physician Probable mucosal damage may contraindicate the use of gastric lavage.

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	117
Flash Point/Range (C):	47
Flash Point Method:	CC
Autoignition Temperature (F):	Not Determined
Autoignition Temperature (C):	Not Determined
Flammability Limits in Air - Lower (%):	Not Determined
Flammability Limits in Air - Upper (%):	Not Determined

Fire Extinguishing Media Carbon Dioxide, Dry Chemicals, Foam.

Special Exposure Hazards Decomposition in fire may produce toxic gases. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire.

Special Protective Equipment for Fire-Fighters Full protective clothing and approved self-contained breathing apparatus required for fire fighting personnel.

NFPA Ratings: Health 2, Flammability 2, Reactivity 0

HMS Ratings: Health 2, Flammability 2, Reactivity 0

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas.

Environmental Precautionary Measures Prevent from entering sewers, waterways, or low areas.

Procedure for Cleaning / Absorption Isolate spill and stop leak where safe. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. Scoop up and remove.

7. HANDLING AND STORAGE

Handling Precautions Avoid contact with eyes, skin, or clothing. Avoid breathing vapors.

Storage Information Store away from oxidizers. Keep from heat, sparks, and open flames. Keep from excessive heat. Store in a cool, dry location. Store in a well ventilated area. Product has a shelf life of 24 months.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

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

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, 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 needed. But if significant exposures are possible then the following respirator is recommended: In high concentrations, supplied air respirator or a self-contained breathing apparatus. Organic vapor respirator with a dust/mist filter. (A2P2/P3)
Hand Protection	Impervious rubber gloves.
Skin Protection	Rubber apron.
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

Physical State:	Liquid
Color:	White to light straw
Odor:	Turpentine
pH:	Not Determined
Specific Gravity @ 20 C (Water=1):	0.85 - 0.87
Density @ 20 C (lbs./gallon):	7.16
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	Not Determined Min: > 315
Boiling Point/Range (C):	Not Determined Min: > 157
Freezing Point/Range (F):	5
Freezing Point/Range (C):	-15
Vapor Pressure @ 20 C (mmHg):	.1
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	99
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	Insoluble
Solubility in Solvents (g/100ml):	Not Determined
VOCs (lbs./gallon):	Not Determined
Viscosity, Dynamic @ 20 C (centipoise):	Not Determined
Viscosity, Kinematic @ 20 C (centistokes):	Not Determined
Partition Coefficient/n-Octanol/Water:	Not Determined
Molecular Weight (g/mole):	Not Determined

10. STABILITY AND REACTIVITY

Stability Data:	Stable
Hazardous Polymerization:	Will Not Occur
Conditions to Avoid	Keep away from heat, sparks and flame. Avoid contact with acids.
Incompatibility (Materials to Avoid)	Strong oxidizers.

Hazardous Decomposition Products

Oxides of sulfur. 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**

Excessive inhalation causes headache, dizziness, nausea and incoordination.

Eye Contact

May cause eye irritation.

Skin Contact

May cause skin defatting with prolonged exposure. May cause skin irritation.

Ingestion

Irritation of the mouth, throat, and stomach. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression.

Chronic Effects/Carcinogenicity

Repeated excessive ingestion may cause central nervous system effects. Prolonged or repeated exposure may cause liver, kidney and lung effects.

Toxicology data for the components

Substances	CAS Number	LD50 Oral	LD50 Dermal	LC50 Inhalation
Terpene hydrocarbon by-products	68956-56-9	No data available	No data available	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	Daphnia Magna (Water Flea)
Terpene hydrocarbon by-products	68956-56-9	No information available	TLM96: 550 mg/l (Pimephales promelas)	No information available	No information available

12.2 Persistence and degradability

No information available

12.3 Bioaccumulative potential

No information available

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**

Disposal should be made in accordance with federal, state, and local regulations.

Contaminated Packaging

Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION**Land Transportation****DOT**

UN2319, Terpene Hydrocarbons, N.O.S. , 3 , III , (47.2 C)
NAERG 128

Canadian TDG

Terpene Hydrocarbons, N.O.S. , 3 , UN2319 , III , (47.2 C)

ADR

UN2319, Terpene Hydrocarbons, N.O.S , 3 , III

Air Transportation**ICAO/IATA**

UN2319, Terpene Hydrocarbons, N.O.S , 3 , III

Sea Transportation**IMDG**

UN2319, Terpene Hydrocarbons, N.O.S , 3 , III , (47.2 C)
EmS F-E, S-D

Other Transportation Information

Labels: Flammable Liquid

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
Fire 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 meet the criteria of a hazardous waste as defined by the US EPA, because of: Ignitability D001
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California Proposition 65	All components listed do not apply to the California Proposition 65 Regulation.
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MA Right-to-Know Law	Does not apply.
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NJ Right-to-Know Law	One or more components listed.
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PA Right-to-Know Law	Does not apply.
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Canadian Regulations

Canadian DSL Inventory	All components listed on inventory or are exempt.
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WHMIS Hazard Class	B3 Combustible Liquids D2B Toxic Materials
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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.
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For questions about the Safety Data Sheet for this or other Halliburton products, contact Chemical Compliance at 1-580-251-4335.

Disclaimer Statement	This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is obtained from various sources including the manufacturer and other third party sources. The information may not be valid under all conditions nor if this material is used in combination with other materials or in any process. Final determination of suitability of any material is the sole responsibility of the user.
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*****END OF MSDS*****