

## SAFETY DATA SHEET

according to Regulation (EC) No. 453/2010

### DCA-31004

Revision Date: 14-Sep-2015

Revision Number: 4

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

##### 1.1. Product Identifier

Product Name DCA-31004  
Internal ID Code HM007680

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

Recommended Use Solvent

##### 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

www.halliburton.com

For further information, please contact

E-Mail address: fdunexchem@halliburton.com

##### 1.4. Emergency telephone number

+44 8 08 189 0979 / 1-760-476-3961

Emergency telephone - §45 - (EC)1272/2008	
Europe	112
Croatia	Centar za kontrolu otrovanja (CKO): (+385 1) 23-48-342 (Poison Control Center (PCC) - Institute for Medical Research and Occupational Health)
Cyprus	+210 7793777
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
Romania	+40 21 318 36 06
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

Aspiration Category	Category 1 - H304
Skin Corrosion / irritation	Category 2 - H315
Serious Eye Damage / Eye Irritation	Category 2 - H319
Skin Sensitization	Category 1 - H317
Chronic Aquatic Toxicity	Chronic 2 - H411
Flammable liquids.	Category 3 - H226

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

H226 - Flammable liquid and vapor  
 H304 - May be fatal if swallowed and enters airways  
 H315 - Causes skin irritation  
 H317 - May cause an allergic skin reaction  
 H319 - Causes serious eye irritation  
 H411 - Toxic to aquatic life with long lasting effects

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

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
 P273 - Avoid release to the environment  
 P280 - Wear protective gloves/eye protection/face protection  
 P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician  
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water  
 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**

Terpene hydrocarbon by-products

**CAS Number**

68956-56-9

**2.3. Other Hazards**

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT).  
 This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

**SECTION 3: Composition/information on Ingredients****3.1. Substances**

Substance

Substances	EINECS	CAS Number	PERCENT (w/w)	EU - CLP Substance Classification	REACH No.
Terpene hydrocarbon by-products	273-309-3	68956-56-9	60 - 100%	Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Skin Sens. 1 (H317) Asp. Tox. 1 (H304) Aquatic Chronic 2 (H411) Flam. Liq. 3 (H226)	No data available

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

**SECTION 4: First aid measures****4.1. Description of first aid measures****Inhalation**

If inhaled, move victim to fresh air and seek 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**

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

**Ingestion** Get medical attention! If vomiting occurs, keep head lower than hips to prevent aspiration. Rinse mouth. Never give anything by mouth to an unconscious person.

**4.2. Most Important symptoms and effects, both acute and delayed**

Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal. Causes eye irritation. Causes skin irritation. May cause allergic skin reaction.

**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**

Carbon dioxide, dry chemical, foam.

**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 harmful gases. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire.

**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**

Remove sources of ignition. Use appropriate protective equipment. Wear self-contained breathing apparatus in enclosed areas. Avoid contact with skin, eyes and clothing. Avoid breathing vapors. Ensure adequate ventilation. Evacuate all persons from the area.

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. Remove ignition sources and work with non-sparking tools. Contain spill with sand or other inert materials. 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**

Remove sources of ignition. Avoid contact with eyes, skin, or clothing. Avoid breathing vapors. Ensure adequate ventilation. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another. Use appropriate protective equipment.

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice.

**7.2. Conditions for safe storage, including any incompatibilities**

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.

**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	Netherlands	France
Terpene hydrocarbon by-products	68956-56-9	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Germany	Spain	Portugal	Finland
Terpene hydrocarbon by-products	68956-56-9	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Austria	Ireland	Switzerland	Norway
Terpene hydrocarbon by-products	68956-56-9	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Italy	Poland	Hungary	Czech Republic
Terpene hydrocarbon by-products	68956-56-9	Not applicable	Not applicable	Not applicable	Not applicable

Substances	CAS Number	Denmark	Romania	Croatia	Cyprus
Terpene hydrocarbon by-products	68956-56-9	25 ppm	Not applicable	Not applicable	Not applicable

**Derived No Effect Level (DNEL)**

No information available.

**Worker****General Population****Predicted No Effect Concentration (PNEC)**

No information 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**

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**

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 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.

**Environmental Exposure Controls** Do not allow material to contaminate ground water system

## SECTION 9: Physical and Chemical Properties

**9.1. Information on basic physical and chemical properties**

**Physical State:** Liquid  
**Odor:** Turpentine

**Color:** White to light straw  
**Odor Threshold:** No information available

**Property**  
**Remarks/ - Method**

**Values**

**pH:**  
**Freezing Point/Range**  
**Melting Point/Range**  
**Boiling Point/Range**  
**Flash Point**

No data available  
-15 °C  
No data available  
No data available  
47 °C / 117 °F Closed cup

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	0.1
Vapor Density	No data available
Specific Gravity	0.85 - 0.87
Water Solubility	Insoluble 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
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## SECTION 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**

Keep away from heat, sparks and flame. Avoid contact with acids.

**10.5. Incompatible Materials**

Strong oxidizers.

**10.6. Hazardous Decomposition Products**

Oxides of sulfur. Carbon monoxide and carbon dioxide.

## SECTION 11: Toxicological Information

**11.1. Information on Toxicological Effects****Acute Toxicity****Inhalation**

Excessive inhalation causes headache, dizziness, nausea and incoordination.

**Eye Contact**

Causes eye irritation.

**Skin Contact**

Causes skin irritation. May cause an allergic skin reaction. May cause skin defatting with prolonged exposure.

**Ingestion**

Irritation of the mouth, throat, and stomach. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression. Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

**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	4400 mg/kg (Rat) (similar substance)	> 2000 mg/kg (Rat)	No data available

Substances	CAS Number	Skin corrosion/irritation
Terpene hydrocarbon by-products	68956-56-9	Causes moderate skin irritation. (Rabbit)

Substances	CAS Number	Eye damage/irritation
Terpene hydrocarbon by-products	68956-56-9	Causes moderate eye irritation. (Rabbit) (similar substances)

Substances	CAS	Skin Sensitization
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	<b>Number</b>	
Terpene hydrocarbon by-products	68956-56-9	May cause an allergic skin reaction. (mouse) (similar substances)
<b>Substances</b>	<b>CAS Number</b>	<b>Respiratory Sensitization</b>
Terpene hydrocarbon by-products	68956-56-9	No information available
<b>Substances</b>	<b>CAS Number</b>	<b>Mutagenic Effects</b>
Terpene hydrocarbon by-products	68956-56-9	In vitro tests did not show mutagenic effects
<b>Substances</b>	<b>CAS Number</b>	<b>Carcinogenic Effects</b>
Terpene hydrocarbon by-products	68956-56-9	Did not show carcinogenic effects in animal experiments (similar substances)
<b>Substances</b>	<b>CAS Number</b>	<b>Reproductive toxicity</b>
Terpene hydrocarbon by-products	68956-56-9	Did not show teratogenic effects in animal experiments. (similar substances)
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - single exposure</b>
Terpene hydrocarbon by-products	68956-56-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
<b>Substances</b>	<b>CAS Number</b>	<b>STOT - repeated exposure</b>
Terpene hydrocarbon by-products	68956-56-9	No significant toxicity observed in animal studies at concentration requiring classification. (similar substances)
<b>Substances</b>	<b>CAS Number</b>	<b>Aspiration hazard</b>
Terpene hydrocarbon by-products	68956-56-9	Aspiration into the lungs may cause chemical pneumonitis including coughing, difficulty breathing, wheezing, coughing up blood and pneumonia, which can be fatal.

## SECTION 12: Ecological Information

### 12.1. Toxicity Ecotoxicity Effects

Substances	CAS Number	Toxicity to Algae	Toxicity to Fish	Toxicity to Microorganisms	Toxicity to Invertebrates
Terpene hydrocarbon by-products	68956-56-9	ErC50 (72h) 4.779 mg/L (Pseudokirchnerella subcapitata) EC50 (72h) 63.59 mg/L (Skeletonema costatum)	LC50 (96h) 5.07 mg/L (Danio rerio) LC50 (96h) > 65 mg/L (Cyprinodon variegatus)	No information available	EL50 (48h) 1.4 - 2.7 mg/L (Daphnia magna) EC50 (48h) 155 mg/L (Acartia tonsa)

### 12.2. Persistence and degradability

Substances	CAS Number	Persistence and Degradability
Terpene hydrocarbon by-products	68956-56-9	Readily biodegradable (83% @ 28d)

### 12.3. Bioaccumulative potential

Substances	CAS Number	Log Pow
Terpene hydrocarbon by-products	68956-56-9	5.7

### 12.4. Mobility in soil

Substances	CAS Number	Mobility
Terpene hydrocarbon by-products	68956-56-9	No information available

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

This substance is not considered to be persistent, bioaccumulating nor toxic (PBT). This substance is not considered to be very persistent nor very bioaccumulating (vPvB).

Substances	PBT and vPvB assessment
Terpene hydrocarbon by-products	Not PBT/vPvB

**12.6. Other adverse effects****Endocrine Disruptor Information**

This product does not contain any known or suspected endocrine disruptors

<b>SECTION 13: Disposal Considerations</b>
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**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.

<b>SECTION 14: Transport Information</b>
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**IMDG/IMO**

**UN Number:** UN2319  
**UN Proper Shipping Name:** Terpene Hydrocarbons, N.O.S.  
**Transport Hazard Class(es):** 3  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant

**RID**

**UN Number:** UN2319  
**UN Proper Shipping Name:** Terpene Hydrocarbons, N.O.S.  
**Transport Hazard Class(es):** 3  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant

**ADR**

**UN Number:** UN2319  
**UN Proper Shipping Name:** Terpene Hydrocarbons, N.O.S.  
**Transport Hazard Class(es):** 3  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant

**IATA/ICAO**

**UN Number:** UN2319  
**UN Proper Shipping Name:** Terpene Hydrocarbons, N.O.S.  
**Transport Hazard Class(es):** 3  
**Packing Group:** III  
**Environmental Hazards:** Marine Pollutant

**14.1. UN Number:** UN2319

**14.2. UN Proper Shipping Name:** Terpene Hydrocarbons, N.O.S.

**14.3. Transport Hazard Class(es):** 3

**14.4. Packing Group:** III

**14.5. Environmental Hazards:** Marine Pollutant

**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

<b>SECTION 15: Regulatory Information</b>
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**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

<b>US TSCA Inventory</b>	All components listed on inventory or are exempt.
<b>Canadian DSL Inventory</b>	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

<b>Germany, Water Endangering Classes (WGK)</b>	Not determined.
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**15.2. Chemical Safety Assessment**

No information available

**SECTION 16: Other Information****Full text of H-Statements referred to under sections 2 and 3**

H226 - Flammable liquid and vapor

H304 - May be fatal if swallowed and enters airways

H315 - Causes skin irritation

H317 - May cause an allergic skin reaction

H319 - Causes serious eye irritation

H411 - Toxic to aquatic life with long lasting effects

**Key or legend to abbreviations and acronyms**

bw – body weight

CAS – Chemical Abstracts Service

CLP – REGULATION (EC) No 1272/2008 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on Classification, Labelling and Packaging of substances and mixtures

EC – European Commission

EC10 – Effective Concentration 10%

EC50 – Effective Concentration 50%

EEC – European Economic Community

ErC50 – Effective Concentration growth rate 50%

IBC Code – International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk

LC50 – Lethal Concentration 50%

LD50 – Lethal Dose 50%

LL0 – Lethal Loading 0%

LL50 – Lethal Loading 50%

MARPOL – International Convention for the Prevention of Pollution from Ships

mg/kg – milligram/kilogram

mg/L – milligram/liter

NIOSH – National Institute for Occupational Safety and Health

NOEC – No Observed Effect Concentration

NTP – National Toxicology Program

OEL – Occupational Exposure Limit

PBT – Persistent Bioaccumulative and Toxic

PC – Chemical Product category

PEL – Permissible Exposure Limit

ppm – parts per million

PROC – Process category

REACH – REGULATION (EC) No 1907/2006 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals

STEL – Short Term Exposure Limit

SU – Sector of Use category

**Key literature references and sources for data**[www.ChemADVISOR.com/](http://www.ChemADVISOR.com/)**Revision Date:** 14-Sep-2015**Revision Note**

SDS sections updated: 1

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

This information is furnished without warranty, expressed or implied, as to accuracy or completeness. The information is



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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.

**End of Safety Data Sheet**