HALLIBURTON

# MATERIAL SAFETY DATA SHEET

**Product Trade Name:** **CAT-3W**

**Revision Date:** 24-Nov-2014

## 1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

**Product Trade Name:** CAT-3W
**Synonyms:** None
**Chemical Family:** Blend
**Application:** Activator

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

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

## 2. COMPOSITION/INFORMATION ON INGREDIENTS

| Substances | CAS Number | PERCENT (w/w) | ACGIH TLV-TWA | OSHA PEL-TWA |
|---|---|---|---|---|
| Methanol | 67-56-1 | 10 - 30% | TWA: 200 ppm<br>STEL: 250 ppm<br>Skin | TWA: 200 ppm |
| EDTA/Copper chelate | Proprietary | 5 - 10% | 1 mg/m$^3$ | 1 mg/M3 |
| Ammonium chloride | 12125-02-9 | 1 - 5% | TWA: 10 mg/m$^3$<br>STEL: 20 mg/m$^3$ | 10 mg/m$^3$ |
| Copper | 7440-50-8 | 1 - 5% | TWA: 0.2 mg/m$^3$ | 1 mg/m$^3$ |

## 3. HAZARDS IDENTIFICATION

**Hazard Overview**
May cause eye, skin, and respiratory irritation. May cause headache, dizziness, and other central nervous system effects. May be fatal if swallowed. May cause blindness. May be fatal if absorbed through the skin. Repeated overexposure may cause liver and kidney effects. Flammable.

## 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**
In case of contact, immediately flush skin with plenty of soap and water for at least 15 minutes. Get medical attention. Remove contaminated clothing and launder before reuse.

**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** | Do not induce vomiting. Slowly dilute with 1-2 glasses of water or milk and seek medical attention. Never give anything by mouth to an unconscious person. |
| **Notes to Physician** | Not Applicable |

## 5. FIRE FIGHTING MEASURES

| | |
|---|---|
| **Flash Point/Range (F):** | 87 |
| **Flash Point/Range (C):** | 30.6 |
| **Flash Point Method:** | PMCC |
| **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** | Water fog, carbon dioxide, foam, dry chemical. |
| **Special Exposure Hazards** | May be ignited by heat, sparks or flames. Use water spray to cool fire exposed surfaces. Closed containers may explode in fire. Decomposition in fire may produce toxic gases. Runoff to sewer may cause fire or explosion hazard. |
| **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 3, Reactivity 0 |
| **HMIS Ratings:** | Health 2, Flammability 3, Physical Hazard 0 , PPE: X |

## 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. Wash hands after use. Launder contaminated clothing before reuse. Ground and bond containers when transferring from one container to another. Avoid breathing mist. |
| **Storage Information** | Store away from oxidizers. Keep from heat, sparks, and open flames. Keep container closed when not in use. Product has a shelf life of 12 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** | Positive pressure self-contained breathing apparatus if methanol is released. |

| | |
|---|---|
| **Hand Protection** | Impervious rubber gloves. Neoprene gloves. Nitrile 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:** | Clear blue |
| **Odor:** | Alcohol - Ammonia |
| **pH:** | 7.9 - 9.9 |
| **Specific Gravity @ 20 C (Water=1):** | .9973 - 1.0273 |
| **Density @ 20 C (lbs./gallon):** | 8.43 |
| **Bulk Density @ 20 C (lbs/ft3):** | Not Determined |
| **Boiling Point/Range (F):** | Not Determined |
| **Boiling Point/Range (C):** | Not Determined |
| **Freezing Point/Range (F):** | -30 |
| **Freezing Point/Range (C):** | -34.4 |
| **Vapor Pressure @ 20 C (mmHg):** | Not Determined |
| **Vapor Density (Air=1):** | Not Determined |
| **Percent Volatiles:** | Not Determined |
| **Evaporation Rate (Butyl Acetate=1):** | Not Determined |
| **Solubility in Water (g/100ml):** | Soluble |
| **Solubility in Solvents (g/100ml):** | Not Determined |
| **VOCs (lbs./gallon):** | Not Determined |
| **Viscosity, Dynamic @ 20 C (centipoise):** | 25 - 35 (24C) |
| **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. |
| **Incompatibility (Materials to Avoid)** | Strong oxidizers. |
| **Hazardous Decomposition Products** | Oxides of nitrogen. Chlorine. Carbon monoxide and carbon dioxide. |
| **Additional Guidelines** | Not Applicable |

## 11. TOXICOLOGICAL INFORMATION

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

**Sympotoms related to exposure**

**Acute Toxicity**

**Inhalation** May cause respiratory irritation. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.

**Eye Contact** May cause moderate eye irritation.

**Skin Contact** May cause skin irritation. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.

**Ingestion** May be fatal or cause blindness if swallowed. May cause central nervous system depression including headache, dizziness, drowsiness, muscular weakness, incoordination, slowed reaction time, fatigue blurred vision, slurred speech, giddiness, tremors and convulsions.

**Chronic Effects/Carcinogenicity** Prolonged or repeated exposure may cause eye, blood, lung, liver, kidney, heart, central nervous system and spleen damage.

**Toxicology data for the components**

| Substances | CAS Number | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|---|---|---|---|---|
| Methanol | 67-56-1 | > 1187 - 2769 mg/kg (Rat)<br>3000 mg/kg (Monkey)<br>300 mg/kg (Human) | 15800 mg/kg (Rabbit)<br>393 mg/kg (Primate) | 87.5 mg/L (Rat) 6h vapour<br>128.2 mg/L (Rat) 4h vapour<br>83.2 mg/L (Rat) 4 h<br>64000 ppm (Rat) 4 h<br>10 mg/L (Human) |
| EDTA/Copper chelate | Proprietary | No data available | No data available | No data available |
| Ammonium chloride | 12125-02-9 | 1410 mg/kg (Rat)<br>1220 mg/kg (Rat)<br>1630 mg/kg (Rat)<br>1300 mg/kg (Mouse) | > 2000 mg/kg (Rat) | No data available |
| Copper | 7440-50-8 | 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 | Toxicity to Invertebrates |
|---|---|---|---|---|---|
| Methanol | 67-56-1 | EC50(96h): ca. 22000 mg/L (Pseudokirchnerella subcapitata, Growth rate) | LC50: 28200 mg/l (Pimephales promelas)<br>LC50(96h): 12700 – 15400 mg/L (Lepomis macrochirus)<br>200 hr NOEC for % Embryo-cardiovascular for stage 2 = 15800 mg/L | IC50(3h): > 1000 mg/L (activated sludge) | EC50(96h): 18260 mg/L (Daphnia magna)<br>NOEC(21d): 122 mg/L (Daphnia magna, Reproduction) |
| EDTA/Copper chelate | Proprietary | No information available | No information available | No information available | No information available |
| Ammonium chloride | 12125-02-9 | EC50: 40-70 mg/l (Skeletonema costatum)<br>EC50(10d): 90.4 mg/L (Navicula sp.)<br>NOEC(10d): 26.8 mg/L (growth rate) (Navicula sp.)<br>EC50(5d): 1300 mg/L (growth rate) (Chlorella vulgaris) | LC50(96h): 275 mg/L (Cyprinus carpio)<br>LC50(96h): 163 mg/L (Pimephales promelas)<br>LC50(96h): 218 mg/L (Lepomis cyanellus)<br>LC50(96h): 34 mg/L (Oncorhynchus mykiss)<br>NOEC(28d): 11.8 mg/L (Pimephales promelas) | EC50(30m): 1618 mg/L (activated sludge, domestic) | TLM96: 16 mg/l (Crangon crangon)<br>EC50(48h): 101 mg/L (Daphnia magna)<br>NOEC(21d): 14.6 mg/L (Daphnia magna) |
| Copper | 7440-50-8 | EC50: 0.0426 - 0.0535 mg/L (Pseudokirchneriella subcapitata) | LC50: 0.0068 - 0.0156 mg/L (Pimephales promelas) | No information available | EC50: 0.03 mg/L (Daphnia magna) |

**12.2. Persistence and degradability**

| Substances | CAS Number | Persistence and Degradability |
|---|---|---|
| Methanol | 67-56-1 | Readily biodegradable (95-97% @ 20d) |
| EDTA/Copper chelate | Proprietary | No information available |
| Ammonium chloride | 12125-02-9 | The methods for determining biodegradability are not applicable to inorganic substances. |
| Copper | 7440-50-8 | No information available |

**12.3. Bioaccumulative potential**

| Substances | CAS Number | Log Pow |
|---|---|---|
| Methanol | 67-56-1 | -0.77<br>BCF 1.0 – 4.5 (Cyprinus carpio)<br>BCF < 10 (Leuciscus idus melanotus) |
| EDTA/Copper chelate | Proprietary | No information available |
| Ammonium chloride | 12125-02-9 | No information available |
| Copper | 7440-50-8 | No information available |

**12.4. Mobility in soil**
No information available

**12.5. Results of PBT and vPvB assessment**
No information available.

| Substances | PBT and vPvB assessment |
|---|---|
| Methanol | Not PBT/vPvB |

**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

**US DOT**
**UN Number:** UN1993
**UN Proper Shipping Name:** Flammable Liquid, N.O.S. (Contains Methanol)
**Transport Hazard Class(es):** 3
**Packing Group:** III
**NAERG:** NAERG 128

**US DOT Bulk**
**DOT (Bulk)** Not applicable

**Canadian TDG ul0**
**UN Number:** UN1993
**UN Proper Shipping Name:** Flammable Liquid, N.O.S. (Contains Methanol)
**Transport Hazard Class(es):** 3
**Packing Group:** III

**IMDG/IMO**
**UN Number:** UN1993
**UN Proper Shipping Name:** Flammable Liquid, N.O.S. (Contains Methanol)
**Transport Hazard Class(es):** 3
**Packing Group:** III

**EMS:** EmS F-E, S-E

**IATA/ICAO**

**UN Number:** UN1993
**UN Proper Shipping Name:** Flammable Liquid, N.O.S. (Contains Methanol)
**Transport Hazard Class(es):** 3
**Packing Group:** III

**Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code:** Not applicable
**Special Precautions for User:** None

**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
Chronic Health Hazard
Fire Hazard

**EPA SARA (313) Chemicals** This product contains toxic chemical(s) listed below which is(are) subject to the reporting requirements of Section 313 of Title III of SARA and 40 CFR Part 372:
Methanol//67-56-1

**EPA CERCLA/Superfund Reportable Spill Quantity** EPA Reportable Spill Quantity is 1918 Gallons based on Methanol (CAS: 67-56-1).

**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

**California Proposition 65** The California Proposition 65 regulations apply to this product.

**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.

**WHMIS Hazard Class**
B2 Flammable Liquids
D1B Toxic Materials
D2A Very Toxic Materials
D2B Toxic Materials

## 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**

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.

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