

MATERIAL SAFETY DATA SHEET

Product Trade Name: **K-31**

Revision Date: 20-Dec-2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: K-31
Synonyms: None
Chemical Family: Not applicable
Application: Additive

Manufacturer/Supplier: Halliburton Energy Services
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2. COMPOSITION/INFORMATION ON INGREDIENTS

Substances	CAS Number	PERCENT	ACGIH TLV-TWA	OSHA PEL-TWA
Acrylamide	79-06-1	60 - 100%	0.03 mg/m ³	0.3 mg/m ³ (S)

3. HAZARDS IDENTIFICATION

Hazard Overview May cause eye, skin, and respiratory irritation. May be harmful if swallowed. May be harmful if inhaled. May be absorbed through the skin. Potential carcinogen. May cause headache, dizziness, and other central nervous system effects. May cause birth defects. Airborne dust may be explosive.

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 An early sign of overexposure is peeling of skin. Patients should be monitored for at least 2-3 weeks and observed for delayed neurotoxicity. Exposures may lead to weak or absent reflexes, positive Romberg's sign, loss of vibration and position sense, and numbness.

5. FIRE FIGHTING MEASURES

Flash Point/Range (F):	Not Determined
Flash Point/Range (C):	Not Determined
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 - Upper (%):	Not Determined

Fire Extinguishing Media Water fog, carbon dioxide, foam, dry chemical.

Special Exposure Hazards Decomposition in fire may produce toxic gases. Organic dust in the presence of an ignition source can be explosive in high concentrations. Good housekeeping practices are required to minimize this potential.

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 2
HMS Ratings: Health 2, Flammability 2, Reactivity 2

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment. Avoid creating and breathing dust.

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

Procedure for Cleaning / Absorption Scoop up and remove. Absorb spill using hypchlorite solution (4 kg calcium hypochlorite, 2.5 kg sodium hydroxide, 40 kg water). Flush area with water.

7. HANDLING AND STORAGE

Handling Precautions Avoid contact with eyes, skin, or clothing. Avoid creating or inhaling dust. Do NOT consume food, drink, or tobacco in contaminated areas. Wash hands after use. Launder contaminated clothing before reuse.

Storage Information Store away from acids. Store away from alkalis. Store away from oxidizers. Store away from reducing agents. Store in a cool, dry location. Keep from heat, sparks, and open flames.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering Controls Use in a well ventilated area. Localized ventilation should be used to control dust levels.

Respiratory Protection Positive pressure self-contained breathing apparatus.

Hand Protection Impervious rubber gloves.

Skin Protection Full protective chemical resistant clothing.

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:	Solid
Color:	White
Odor:	Odorless
pH:	Not Determined
Specific Gravity @ 20 C (Water=1):	1.22
Density @ 20 C (lbs./gallon):	Not Determined
Bulk Density @ 20 C (lbs/ft3):	70.2
Boiling Point/Range (F):	Not Determined
Boiling Point/Range (C):	Not Determined
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	0.03
Vapor Density (Air=1):	Not Determined
Percent Volatiles:	Not Determined
Evaporation Rate (Butyl Acetate=1):	Not Determined
Solubility in Water (g/100ml):	215.5
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):	71.09

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. Strong acids. Strong alkalis. Reducing agents. Contact with metals. Amphoteric metals such as aluminum, magnesium, lead, tin, or zinc.
Hazardous Decomposition Products	Silicon dioxide. Ammonia. Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	May cause peripheral neuropathy with symptoms of tingling of extremities, incoordination, numbness, weakness and tremors. May cause central nervous system depression including headache, dizziness, drowsiness, incoordination, slowed reaction time, slurred speech, giddiness and unconsciousness.
Skin Contact	May cause moderate skin irritation. May cause peeling of skin, numbness in limbs, imbalance, clumsiness, and muscular weakness. May be absorbed through the skin and produce effects similar to those caused by inhalation and/or ingestion.
Eye Contact	May cause moderate eye irritation.
Ingestion	Harmful if swallowed. May cause headache, dizziness, nausea, vomiting, gastrointestinal irritation and central nervous system depression. May cause nervous system disorder.

Aggravated Medical Conditions	Skin disorders. Eye ailments.
Chronic Effects/Carcinogenicity	Contains acrylamide, a potential carcinogen. Repeated excessive ingestion may cause central nervous system effects. Prolonged or repeated exposure may cause reproductive system damage. May cause birth defects.
Other Information	None known.
Toxicity Tests	
Oral Toxicity:	LD50: 170 mg/kg (Rat)
Dermal Toxicity:	Not determined
Inhalation Toxicity:	Not determined
Primary Irritation Effect:	Not determined
Carcinogenicity	Not determined
Genotoxicity:	Not determined
Reproductive / Developmental Toxicity:	Not determined

12. ECOLOGICAL INFORMATION

Mobility (Water/Soil/Air)	Not determined
Persistence/Degradability	Readily biodegradable
Bio-accumulation	Not determined

Ecotoxicological Information

Acute Fish Toxicity:	EC50: 66 ppm (Abra alba) TLM96: 100 mg/l (Lepomis macrochirus)
Acute Crustaceans Toxicity:	TLM96: 78 mg/l (Mysidopsis bahia)
Acute Algae Toxicity:	Not determined

Chemical Fate Information	Not determined
Other Information	Not applicable

13. DISPOSAL CONSIDERATIONS

Disposal Method	Disposal should be made in accordance with federal, state, and local regulations.
Contaminated Packaging	This bag may contain residue of a hazardous material. Some authorities may regulate such containers as hazardous waste. Dispose of container according to national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

DOT

UN2074, Acrylamide, 6.1, III

Canadian TDG

Acrylamide, 6.1, UN2074, III

ADR

UN2074,Acrylamide, 6.1, III

Air Transportation

ICAO/IATA

UN2074,Acrylamide, 6.1, III

Sea Transportation

IMDG

UN2074,Acrylamide, 6.1, III
EmS F-A, S-A

Other Transportation Information

Labels: Keep Away From Food

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
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: Acrylamide//79-06-1
EPA CERCLA/Superfund Reportable Spill Quantity	EPA Reportable Spill Quantity is 5000 Pounds based on Acrylamide (CAS: 79-06-1).
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: Listed Waste U007
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	D1A Very Toxic Materials D1B Toxic Materials

16. OTHER INFORMATION

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

Not applicable

Additional Information

For additional information on the use of this product, contact your local Halliburton representative.

For questions about the Material 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*****