HALLIBURTON

MATERIAL SAFETY DATA SHEET

Product Trade Name: **AQLB-2**

Revision Date: 19-Oct-2012

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

Product Trade Name: AQLB-2
Synonyms: None
Chemical Family: Organic acid Anhydride
Application: Additive

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	ACGIH TLV-TWA	OSHA PEL-TWA
Acetic acid	64-19-7	30 - 60%	10 ppm	10 ppm
Acetic anhydride	108-24-7	60 - 100%	1 ppm	5 ppm

3. HAZARDS IDENTIFICATION

Hazard Overview
May cause eye, skin, and respiratory burns. May be harmful if swallowed. Combustible. Reacts violently with water.

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. Destroy or properly dispose of contaminated shoes.

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):	103
Flash Point/Range (C):	39
Flash Point Method:	PMCC
Autoignition Temperature (F):	630
Autoignition Temperature (C):	332
Flammability Limits in Air - Lower (%):	3
Flammability Limits in Air - Upper (%):	19

Fire Extinguishing Media Water must not be used with open containers. Carbon Dioxide, Dry Chemicals, Foam.

Special Exposure Hazards May be ignited by heat, sparks or flames. Closed containers may explode in fire. Decomposition in fire may produce toxic gases. Reaction with water may be highly exothermic.

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

NFPA Ratings: Health 3, Flammability 2, Reactivity 2
HMIS Ratings: Health 3, Flammability 2, Physical Hazard 2 , PPE: X

6. ACCIDENTAL RELEASE MEASURES

Personal Precautionary Measures Use appropriate protective equipment.

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

Procedure for Cleaning / Absorption Isolate spill and stop leak where safe. Contain spill with sand or other inert materials. Neutralize to pH of 6-8. 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.

Storage Information Store away from alkalis. Store away from oxidizers. Store away from water. Keep from heat, sparks, and open flames. Keep container closed when not in use.

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 Organic vapor/acid gas respirator.

Hand Protection Impervious rubber gloves.

Skin Protection Rubber boots. 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: Liquid

9. PHYSICAL AND CHEMICAL PROPERTIES

Color:	Clear colorless
Odor:	Pungent acrid
pH:	< 2
Specific Gravity @ 20 C (Water=1):	1.0753
Density @ 20 C (lbs./gallon):	8.962
Bulk Density @ 20 C (lbs/ft3):	Not Determined
Boiling Point/Range (F):	259
Boiling Point/Range (C):	126
Freezing Point/Range (F):	Not Determined
Freezing Point/Range (C):	Not Determined
Vapor Pressure @ 20 C (mmHg):	11.7
Vapor Density (Air=1):	3.5
Percent Volatiles:	100
Evaporation Rate (Butyl Acetate=1):	0.97
Solubility in Water (g/100ml):	Soluble
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. Do not allow water to get into container because of violent reaction.
Incompatibility (Materials to Avoid)	Strong alkalis. Strong oxidizers. Reacts with water.
Hazardous Decomposition Products	Carbon monoxide and carbon dioxide.
Additional Guidelines	Not Applicable

11. TOXICOLOGICAL INFORMATION

Principle Route of Exposure	Eye or skin contact, inhalation.
Inhalation	Causes severe respiratory irritation.
Skin Contact	Causes severe burns.
Eye Contact	Causes severe eye burns.
Ingestion	Causes burns of the mouth, throat and stomach.
Aggravated Medical Conditions	Eye ailments. Skin disorders.
Chronic Effects/Carcinogenicity	Prolonged, excessive exposure may cause erosion of the teeth.
Other Information	None known.

Toxicity Tests

Oral Toxicity:	Not determined

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:	Not determined
Acute Crustaceans Toxicity:	Not determined
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 Follow all applicable national or local regulations.

14. TRANSPORT INFORMATION

Land Transportation

DOT

UN2920,Corrosive Liquid, Flammable, N.O.S.(Contains Acetic Anhydride, Acetic Acid) , 8, (3), II, (39.4 C)
NAERG 132

Canadian TDG
Corrosive Liquid, Flammable, N.O.S.(Contains Acetic Anhydride, Acetic Acid) , 8, (3), UN2920, II, (39.4 C)

ADR

UN2920,Corrosive Liquid, Flammable, N.O.S.(Contains Acetic Anhydride, Acetic Acid) , 8, (3), II

Air Transportation

ICAO/IATA

UN2920,Corrosive Liquid, Flammable, N.O.S., 8, (3), II
(Contains Acetic Anhydride, Acetic Acid)

Sea Transportation

IMDG

UN2920,Corrosive Liquid, Flammable, N.O.S.(Contains Acetic Anhydride, Acetic Acid) , 8, (3), II, (39.4 C)
EmS F-E, S-C

Other Transportation Information

Labels: Corrosive
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 EPA Reportable Spill Quantity is 1409 Gallons based on Acetic acid (CAS: 64-19-7).

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
Corrosivity D002

California Proposition 65 All components listed do not apply to the California Proposition 65 Regulation.

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 B3 Combustible Liquids
E Corrosive Material

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*****