APPALACHIAN DRILLING SERVICES

SAFETY DATA SHEET

KSub QS-42

1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND THE COMPANY

Product name: **KSub QS-42**

Distributor: APPALACHIAN DRILLING SERVICES
105 Industrial Park Road
Beech Creek, PA 16822
United States

Telephone: 570-907-0136

Telefax: 570-907-0146

Emergency telephone number: ChemTrec 800-424-9300

2. HAZARDS IDENTIFICATION

Form: Liquid

Color: Clear, colorless

Odor: Bland

Potential Health Effects:

Eye: May cause eye irritation.

Skin: May cause skin irritation. Low hazard for usual industrial handling.

Inhalation: May cause respiratory tract irritation. Low hazard for usual industrial handling.

Ingestion: Ingestion of large amounts may cause gastrointestinal irritation. Expected to be a low ingestion hazard.

Carcinogenicity:
NTP: No ingredients listed in this section
IARC: No ingredients listed in this section
OSHA: No ingredients listed in this section
ACGIH: No ingredient listed in this section

3. COMPOSITION / INFORMATION OF INGREDIENTS

Chemical Name	CAS Number	Weight %
Choline chloride	67-48-1	30-50

4. FIRST AID MEASURES

Eyes: Flush eyes with plenty of water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Get medical aid.

Skin: Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical aid if irritation develops or persists. Wash clothing before reuse.

Ingestion: Never give anything by mouth to an unconscious person. Get medical aid. Do NOT induce vomiting. If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water.

Inhalation: Remove from exposure to fresh air immediately. If not breathing, give artificial respiration. If breathing is difficult, give oxygen. Get medical aid if cough or other symptoms appear.

Notes to Physician: Treat symptomatically.

5. FIRE FIGHTING MEASURES

General information: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear. During a fire, irritating and highly toxic gases may be generated by thermal decomposition or combustion. This material in sufficient quantity and reduced particle size is capable of creating a dust explosion.

Extinguishing Media: Use agent most appropriate to extinguish fire. Use water spray, dry chemical, carbon dioxide, or appropriate foam.

Auto ignition temperature: Not applicable.

Flash point: Not applicable.

6. ACCIDENTAL RELEASE MEASURES

Steps to be taken if material is released or spilled:
General Information: Use proper personal protective equipment as indicated in Section 8.
Spills/Leaks: Clean up spills immediately, observing precautions in the Protective Equipment section. Sweep up, then place into a suitable container for disposal. Avoid generating dusty conditions. Provide ventilation.

7. HANDLING AND STORAGE

Handling: Wash thoroughly after handling. Use with adequate ventilation. Minimize dust generation and accumulation. Avoid contact with eyes, skin, and clothing. Keep container tightly closed. Avoid ingestion and inhalation.

Storage: Store in a tightly closed container. Keep from contact with oxidizing materials. Store in a cool, dry, well-ventilated area away from incompatible substances.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Engineering Controls: Facilities storing or utilizing this material should be equipped with an eyewash facility and a safety shower. Use adequate ventilation to keep airborne concentrations low.

Exposure limits

Choline chloride: No OSHA vacated PELs are listed for this chemical.

Personal Protective Equipment

Eyes: Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.

Skin: Wear appropriate protective gloves to prevent skin exposure.

Clothing: Wear appropriate protective clothing to prevent skin exposure. Respirators: A respiratory protection program that meets OSHA's 29 CFR 1910.134 and ANSI Z88.2 requirements or European Standard EN 149 must be followed whenever workplace conditions warrant a respirator's use.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical state: Solid

Color: light brown

Odor: none reported

Vapor pressure: Negligible.

Vapor density: Not available.

Evaporation rate: Negligible.

Viscosity: Not available.

Boiling point: Not available.

Decomposition temperature: Not available.

Solubility in water: soluble in water.

Specific gravity/density: Not available.

Molecular formula: C5H14NOCl

Molecular weight: 139.5571

10. STABILITY AND REACTIVITY

Chemical stability: Stable at room temperature in closed containers under normal storage and handling conditions.

Conditions to avoid: Incompatible materials, dust generation, excess heat.

Incompatibilities with other materials: Oxidizing agents.

Hazardous decomposition products: Hydrogen chloride, nitrogen oxides, carbon monoxide, irritating and toxic fumes and gases, carbon dioxide.

Hazardous polymerization: Has not been reported.

11. TOXICOLOGICAL INFORMATION

RTECS#:

CAS# 67-48-1LD50/LC50:

CAS# 67-48-1: Oral, mouse: LD50 = 3900 mg/kg; Oral, rat: LD50 = 3400mg/kg.

Epidemiology: No information available.

Teratogenicity: No information available.

Reproductive effects: No information available.

Neurotoxicity: No information available.

Mutagenicity: No information available.

Other studies: See actual entry in RTECS for complete information.

12. ECOLOGICAL INFORMATION

No information available.

13. DISPOSAL CONSIDERATIONS

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. US EPA guidelines for the classification determination are listed in 40 CFR Parts 261.3. Additionally, waste generators must consult state and local hazardous waste regulations to ensure complete and accurate classification.

RCRA P-Series: None listed.

RCRA U-Series: None listed.

14. TRANSPORTATION REGULATIONS

US DOT: No information available

Canadian TDG not regulated by IMO

15. REGULATORY INFORMATION

TSCA: CAS# 67-48-1 is listed on the TSCA inventory.

Health & Safety Reporting List: None of the chemicals are on the Health & Safety Reporting List.

Chemical Test Rules: None of the chemicals in this product are under a Chemical Test Rule.

Section 12b: None of the chemicals are listed under TSCA Section 12b.

TSCA Significant New Use Rule: None of the chemicals in this material have a SNUR under TSCA.

SARA CERCLA Hazardous Substances and corresponding RQs: None of the chemicals in this material have an RQ.

SARA Section 302 Extremely Hazardous Substances: None of the chemicals in this product have a TPQ.

Section 313: No chemicals are reportable under Section 313.

Clean Air Act: This material does not contain any hazardous air pollutants.
This material does not contain any Class 1 Ozone depletors.
This material does not contain any Class 2 Ozone depletors.

Clean Water Act: None of the chemicals in this product are listed as Hazardous Substances under the CWA.
None of the chemicals in this product are listed as Priority Pollutants under the CWA.

None of the chemicals in this product are listed as Toxic Pollutants under the CWA.

OSHA: None of the chemicals in this product are considered highly hazardous by OSHA.

European/International Regulations: European Labeling in Accordance with EC Directives

Hazard Symbols: Not available.
Risk Phrases: Safety Phrases: After contact with skin, wash immediately with plenty of water. Wear suitable gloves. In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). WGK (Water Danger/Protection)

Canada CAS# 67-48-1 is listed on Canada's DSL List.
WHMIS: Not available.

CAS# 67-48-1 is not listed on Canada's Ingredient Disclosure List.
Exposure Limits: CAS# 67-48-1: OEL-RUSSIA: STEL 0.2 mg/m3

16. OTHER INFORMATION

The information is furnished without warranty, expressed or implied, except that it is accurate to the best knowledge of manufacturer. Users should consider these data only as a supplement to other information gathered by them and must make independent determinations of the suitability and completeness of information from all sources to assure proper use and disposal of these materials and the health of employees and customers.

Revised May 26, 2015, S. Bowser