SAFETY DATA SHEET

Section 1. PRODUCT AND COMPANY IDENTIFICATION

Product Name:	Ice Liquid Agent (Pressurized and Non-pressurized)
Other Identifiers:	Low Temperature Foam Solution, Di (ethylene glycol) butyl ether
Product Code(s):	Amerex 22210
Model Code(s) on Fire Extinguisher:	ICE 1,2,4, ICE H2,H4, ICE S4, ICS 14, ICS 28
Recommended Uses:	Liquid extinguishant and cooling agent
Manufacturer:	AMEREX CORPORATION
Internet Address:	www.amerex-fire.com
Address:	7595 Gadsden Highway, P.O. Box 81 Trussville, AL 35173-0081
Company Telephone:	(205) 655-3271
E-mail Address:	info@amerex-fire.com
Emergency Contacts:	Chemtrec 1(800) 424-9300 or (703) 527–3887
Revised:	March 13, 2018

Section 2. HAZARDS IDENTIFICATION

GHS – Classification

Health	Environmental	Physical
Acute Toxicity: Category 5	None	None
Skin Corrosion/Irritation: Category 3	None	Warning
Skin Sensitization: NO	None	None
Eye: 2A	None	Warning
Carcinogen: Category None	None	None

GHS – Label Symbol(s):

If Pressurized: Gas Under Pressure

GHS – Signal Word(s): **Warning**

Other Hazards Not Resulting in Classification: None

GHS – Hazard Phrases

GHS Hazard	GHS Codes(s)	Code Phrase(s)
Physical	H229	*- Contents under pressure; may explode if heated.
Health	H303	May be harmful if swallowed.
	315	Causes skin irritation.
	319	Causes serious eye irritation.
	335	May cause respiratory irritation.
Environmental	None	
Precautionary:		
General	P101	If medical advice is needed, have product container or label at hand
Prevention	P251	Do not pierce or burn, even after use.
	261	Avoid breathing dust/fumes/gas/mist/vapours/spray.
	264	Wash exposed skin thoroughly after handling.
	271	Use only outdoors or in well-ventilated area
	280	Wear protective gloves/protective clothing/eye protection/face protection.
Response	P312	Call a doctor if you feel unwell,
	321	Specific treatment (see Section 4. First Aid Measures)
	330	Rinse mouth.
	301+312	IF SWALLOWED: Call a doctor if you feel unwell.
	302+352	IF ON SKIN: Wash with plenty of water.
	304+340	IF INHALED, remove person to fresh air and keep comfortable for breathing.
	305+351+338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do - continue rinsing.
	332+313	If skin irritation occurs: Get medical advice/attention.
	337+313	If eye irritation persist get medical advice/attention.
	342+311	If experiencing respiratory symptoms: Call a doctor.
Storage	P410+403	*- Protect from sunlight. Store in well-ventilated place.
Disposal	P501	Dispose of contents through a licensed disposal company. Contaminated container should be disposed of as unused product.

*- If under pressure

Section 3. COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name	EC No.	REACH Reg. No.	CAS-No.	Weight %
Water	NA	NA	7732-18-5	>50
Potassium acetate	204-822-2	01-2119486975-16-x	127-08-2	<45
Glycol ether	203-961-6	NA	112-34-5	<1
Phosphate Ester	NA	NA	72283-31-9	<1
Fluorosurfactant	NA	NA	proprietary	<1

Emergency overview: Clear to opaque liquid solution.

Adverse health effects and symptoms: This product may be an irritant to the respiratory system, eyes, and skin. Symptoms may include coughing, sore throat, difficulty breathing, eye pain, and skin redness and irritation. Ingestion, although unlikely, may cause cramps, nausea and diarrhea.

Section 4. FIRST AID MEASURES

Eye Exposure:	Causes irritation. Irrigate eyes with water and repeat until pain free. Seek medical attention if irritation persists.
Skin Exposure:	Causes skin irritation. In case of contact, wash with plenty of soap and water. Seek medical attention if irritation persists.
Inhalation:	May cause irritation, along with coughing. If respiratory irritation or distress occurs, remove victim to fresh air. Seek medical attention if irritation persists.
Ingestion:	Overdose symptoms may include gastrointestinal complaints or change in urine output. If victim is conscious and alert, rinse out mouth and give 1-2 glasses of water or milk to drink. Do not induce vomiting. Consult medical service if feel unwell. Do not leave victim unattended. To prevent aspiration of swallowed product, lay victim on side with head lower than waist.
Medical conditions possibly aggravated by exposure:	Inhalation of product may aggravate existing chronic respiratory problems such as asthma, emphysema, or bronchitis. Skin contact may aggravate existing skin disease.

Section 5. FIRE-FIGHTING MEASURES

Flammable Properties:	Not flammable
Flash Point:	Not determined
Suitable Extinguishing Media:	Non-combustible. Use extinguishing media suitable for surrounding conditions.
Hazardous Combustion Products:	Carbon monoxide, carbon dioxide, and metal oxides.
Explosion Data:	
Sensitivity to Mechanical Impact:	Not sensitive
Sensitivity to Static Discharge:	Not sensitive
Unusual fire/explosion hazards:	In a fire this material may decompose, releasing oxides of carbon and potassium. (See Section 10).

Protective Equipment and Precautions for Firefighters:	As in any fire, wear self-contained breathing apparatus pressure-demand. NIOSH (approved or equivalent) and full protective gear.

Section 6. ACCIDENTAL RELEASE MEASURES

Personal Precautions:	Avoid contact with skin, eyes, and clothing.
Personal Protective Equipment:	During minor spill clean-up: Minimum – chemical goggles, nitrile gloves, and an air purifying respirator.
Emergency Procedures:	Large spills (one container or more) should be addressed by hazardous materials technicians who follow a specific emergency response plan and who are trained in the appropriate use of PPE.
Methods for Containment:	Prevent further leakage or spillage if safe to do so. Use sorbent socks for containment.
Methods for Clean Up:	Clean up released material using sorbent materials. Bag and drum for disposal; properly label containers; dispose as required by local, state, and federal regulations. Decontaminate with detergent and water.
Environmental Precautions:	Prevent material from entering waterways.
Other:	If product is contaminated, use PPE and containment appropriate to the nature of the most toxic chemical/material in the mixture.

Section 7. HANDLING AND STORAGE

Personal Precautions:	Use appropriate PPE when handling or maintaining equipment, and wash thoroughly after handling (see Section 8).
Conditions for Safe Storage/Handling:	Keep product in tightly closed container in a cool area. Use in well ventilated area. Prevent falling. Do not allow near heat sources. Contents may be under pressure – inspect extinguisher consistent with product labeling to ensure container integrity.
Incompatible Products:	This material is incompatible with strong acids and strong oxidizing agents. In contact with strong acids, potassium acetate may react vigorously and decompose to produce acetic acid fumes. Potassium acetate may be mildly corrosive to many metals.
Hazardous Decomposition Products:	Carbon dioxide, carbon monoxide, metal oxides.
Hazardous Polymerization:	Will not occur

Section 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Chemical Name	OSHA PEL	ACGIH TLV	DFG MAK *	EU BLV
Water	NA	NA	NA	NA
Potassium Acetate	NA	NA	NA	NA
Glycol ether	NA	NA	100 mg/m3	NA
Phosphate Ester	NA	NA	NA	NA
Fluorosurfactant	NA	NA	NA	NA

*German regulatory limits **PNOC = Particulates not otherwise classified (ACGIH) also known as Particulates not otherwise regulated (OSHA) *** NR = Not Regulated. All values are 8 hour time weighted average concentrations.

Engineering Controls: Showers
Eyewash stations
Ventilation systems

Personal Protective Equipment – PPE Code E:

The need for respiratory protection is not probable during short-term exposure. PPE use during production process must be independently evaluated.




Eye/Face Protection: Chemical goggles
Skin and Body Protection: Wear nitrile or similar gloves/coveralls
Respiratory Protection: If exposure limits are exceeded or irritation is experienced, NIOSH approved respiratory protection should be worn. Use N100 mask for limited exposure; use air-purifying respirator (APR) with high efficiency particulate air (HEPA) filters for prolonged exposure. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current safety and health requirements. The need for respiratory protection is not likely for short-term use in well ventilated areas.
Hygiene Measures: Good personal hygiene practice is essential, such as avoiding food, tobacco products, or other hand-to-mouth contact when handling. Wash thoroughly after handling.

Section 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance:	Clear to opaque liquid
Molecular Weight:	Not Applicable
Odor:	Odorless
Odor Threshold:	No information available
Decomposition Temperature °C:	<100
Freezing Point °C:	No information available
Initial Boiling Point °C:	Product decomposes
Physical State:	Crystalline powder when shipped
pH:	Approximately 8.95 at 20 C
Flash Point °C:	Not Applicable
Auto-ignition Temperature °C:	None
Boiling Point/Range °C:	Not Applicable
Melting Point/Range °C:	Not Applicable
Flammability:	Not flammable
Flammability/Explosivity Limits in Air °C:	Upper – None; Lower-None
Explosive Properties:	None
Oxidizing Properties:	None
Volatile Component (%vol)	Not Applicable
Evaporation Rate:	Not Applicable
Vapor Density:	Not Applicable
Vapor Pressure:	<10mm Hg at 20 C
Specific gravity:	Approximately 1.2 at 20 C
Solubility:	Soluble in water
Partition Coefficient:	No Information Available
Viscosity:	Not Applicable

Section 10. STABILITY AND REACTIVITY

Stability:	Stable under recommended storage and handling conditions.
Reactivity:	Not reactive
Possibility of Hazardous Reactions:	Under normal conditions of storage and handling, hazardous reactions will not occur.
Incompatibles:	This material is incompatible with strong acids and strong oxidizing agents. In contact with strong acids, potassium acetate may react vigorously and decompose to produce acetic acid fumes. Potassium acetate may be mildly corrosive to many metals.
Conditions to Avoid:	Storage or handling near incompatibles.

Hazardous Decomposition Products: Heat of fire may release carbon monoxide, carbon dioxide, and oxides of potassium.

Possibility of Hazardous Reactions: None

Hazardous Polymerization Does not occur

Section 11. TOXICOLOGICAL INFORMATION

Likely Routes of Exposure: Inhalation, skin, and eye contact.

Symptoms:

Immediate

Inhalation: Irritation, coughing.

Eyes: Irritation.

Skin: Irritation.

Delayed: Symptoms appear to be relatively immediate

Acute Toxicity: Relatively non-toxic.

Chronic Toxicity:

Short-term Exposure: None known.

Long-term Exposure: None known.

Acute Toxicity Values - Health

Chemical Name	LD50		LC50 (Inhalation)
	Oral	Dermal	
Water	NA	NA	NA
Potassium Acetate	3250 mg/kg (rat)	NA	NA
Glycol ether	7200 mg/kg (rat)	13000 mg/kg (rabbit)	NA
Phosphate Ester	NA	NA	NA
Fluorosurfactant	NA	NA	NA

Reproductive Toxicity: This product's ingredients are not known to have reproductive or teratogenic effects.

Target Organs and Effects (TOST): Respiratory system (mild irritant).
This product is a mild irritant to epithelial tissue, (eyes, mucous membranes, skin) and may aggravate dermatitis. Ingestion may cause gastrointestinal injury. No information was found indicating the product causes sensitization.

Other Toxicity Categories

Chemical Name	Germ Cell Mutagenicity	Carcino-genicity	Repro-ductive	TOST Single Exp	TOST Repeated Exp	Aspiration
Water	None	None	None	None	None	None
Potassium Acetate	None	None	None	None	None	None
Glycol ether	None	None	None	None	None	None
Phosphate Ester	None	None	None	None	None	None
Fluorosurfactant	None	None	None	None	None	None

Section 12. ECOLOGICAL INFORMATION

Ecotoxicity:	A weak environmental toxin. Specific negative impacts are unknown.
Persistence/Degradability:	Soluble in water; moderate degradation in soil. Rapid photolytic degradation in air.
Probability of rapid biodegradation:	C2H3KO2 Est: 0.792 (Rapid)
Anaerobic biodegradation probability:	C2H3KO2 Est: 0.943 (Slow)
Bioaccummulation potential:	Low.
Bioconcentration factor:	C2H3KO2 Est: 3.16 L/kg (wet weight)
Bioaccummulation:	C2H3KO2 Est: 0.9293
Mobility in soil:	Slow evaporation rate; water soluble, may leach to groundwater
Log Koc:	C2H3KO2 Est: --1.91 (Kow Method)

Other Adverse Ecological Effects: No other known effects at this time

Aquatic Toxicity Values – Environment – Research

Chemical Name	Acute (LC50)	Chronic (LC50)
Water	N/A	N/A
Potassium Acetate	N/A	N/A
Glycol ether	Not acutely toxic	Not acutely toxic
Phosphate Ester	N/A	N/A
Fluorosurfactant	N/A	N/A

Aquatic Toxicity Values – Environment – Calculated Estimates

Chemical Name	Acute (LC50)	EC50
Water	N/A	N/A
Potassium Acetate	N/A	4403 mg/L Gr. Algae 96 hr
Glycol ether	Not acutely toxic	Not acutely toxic
Phosphate Ester	N/A	N/A
Fluorosurfactant	N/A	N/A

Section 13. DISPOSAL CONSIDERATIONS

Safe Handling	Use appropriate PPE when handling, and wash thoroughly after handling (see Section 8).
Waste Disposal Considerations	Dispose in accordance with federal, state, and local regulations.
Contaminated Packaging	Dispose in accordance with federal, state, and local regulations.

NOTES:
This product is not a RCRA characteristically hazardous or listed hazardous waste. Dispose of according to state or local laws, which may be more restrictive than federal laws or regulations. Used product may be altered or contaminated, creating different disposal considerations.

Section 14. TRANSPORT INFORMATION

UN Number:	NA
UN Proper Shipping Name:	NA
Transport Hazard Class:	NA
Packing Group:	NA
Marine Pollutant?:	NO
IATA	Not regulated
DOT	Not regulated

NOTES:
This product is not defined as a hazardous material under U.S. Department of Transportation (DOT) 49 CFR 172, or by Transport Canada "Transportation of Dangerous Goods" regulations.

Special Precautions for Shipping:
The transportation information above covers the Ice Liquid Agent extinguisher agent as shipped in bulk containers and not when contained in fire extinguishers or fire extinguisher systems. If shipped in a stored pressure-type fire extinguisher, and pressurized with a non-flammable, non-toxic inert expellant gas, the fire extinguisher is considered a hazardous material by the US Department of Transportation and Transport Canada. The proper shipping name shall be FIRE EXTINGUISHER and the UN designation is UN 1044. The DOT hazard class/division is LIMITED QUANTITY when pressurized to less than 241 psig and when shipped via highway or rail. UN Class 2.2. Non-Flammable Gas, when shipping via air. Packing Group – N/A

Section 15. REGULATORY INFORMATION

International Inventory Status: All ingredients are on the following inventories

Country(ies)	Agency	Status
United States of America	TSCA	Yes
Canada	DSL	Yes
Europe	EINECS/ELINCS	Yes
Australia	AICS	Yes
Japan	MITI	Yes
South Korea	KECL	Yes

REACH Title XVII Restrictions: No information available

Chemical Name	Dangerous Substances	Organic Solvents	Harmful Substances Whose Names Are to be Indicated on Label	Pollution Release and Transfer Registry (Class II)	Pollution Release and Transfer Registry (Class I)	Poison and Deleterious Substances Control Law
Water	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Potassium Acetate	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Glycol ether	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Phosphate Ester	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Fluorosurfactant	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

Component	ISHA – Harmful Substances Prohibited for Manufacturing, Importing, Transferring, or Supplying	ISHA – Harmful Substances Requiring Permission	Toxic Chemical Classification Listing (TCCL) – Toxic Chemicals	Toxic Release Inventory (TRI) – Group I	Toxic Release Inventory (TRI) – Group II
Water	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Potassium Acetate	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Glycol ether	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Phosphate Ester	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable
Fluorosurfactant	Not Applicable	Not Applicable	Not Applicable	Not Applicable	Not Applicable

European Risk and Safety phrases:

EU Classification: No known national or regional regulations applicable to this product.

U.S. Federal Regulatory Information:

SARA 313:
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA) - This product does not contain and chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372.
None of the chemicals in this product are under SARA reporting requirements or have SARA threshold planning quantities (TPQs) or CERCLA reportable quantities (RQs), or are regulated under TSCA 8(d).

SARA 311/312 Hazard Categories:

Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
*-Sudden Release of Pressure Hazard	Yes
Reactive Hazard	No

* - Only applicable if material is in a pressurized extinguisher.

Clean Water/Clean Air Acts:
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42) or Clean Air Act, Section 112 Hazardous Air Pollutants (HAPs) (see 40 CFR 61) and Section 112 of the Clean Air Act Amendments of 1990.

U.S. State Regulatory Information:

Chemicals in this product are covered under specific State regulations, as denoted below:

Alaska - Designated Toxic and Hazardous Substances: None
California – Permissible Exposure Limits for Chemical Contaminants: None
Florida – Substance List: None
Illinois – Toxic Substance List: None
Kansas – Section 302/303 List: None
Massachusetts – Substance List: None
Minnesota – List of Hazardous Substances: None
Missouri – Employer Information/Toxic Substance List: None
New Jersey – Right to Know Hazardous Substance List: None
North Dakota – List of Hazardous Chemicals, Reportable Quantities: None
Pennsylvania – Hazardous Substance List: None
Rhode Island – Hazardous Substance List: None
Texas – Hazardous Substance List: None
West Virginia – Hazardous Substance List: None
Wisconsin – Toxic and Hazardous Substances: None

California Proposition 65: No component is listed on the California Proposition 65 list.

Other:

Mexico – Grade	No component listed
Canada – WHMIS Hazard Class	No component listed

Section 16. OTHER INFORMATION

This SDS conforms to requirements under U.S., U.K., Canadian, Australian, and EU regulations or standards, and conforms to the proposed 2003 ANSI Z400.1 format.

Issuing Date	17-June-2012
Revision Date	13-March-2018
Revision Notes	None

The information herein is given in good faith but no warranty, expressed or implied, is made.
Updated by William F. Garvin, CIH.