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Revision Date: 18/04/2019 Inspected by: M.Döring
Version: 7.0 / EN Approved by: Technical Control Group

SECTION 1: IDENTIFICATION OF THE PRODUCT AND COMPANY

1.1 Product Identification

Trade Name: Salgromatic ® Fire Systems – **ARMORON**
Model Series: AeroMAG and SalgroMAG

1.2 Relevant Identified Uses of the Substance / Mixture / Product

Description / Intended Uses: Condensed aerosol fire suppression system for professional and special risk applications. * See section 2.1.

1.3 Safety Data Sheet Supplier Details

Importer in the EU: Salgrom Technologies, Inc.
Postal Address: P.O.Box 333
Postal Code, City and Country: FI-90101 Oulu, FINLAND
Internet: www.salgrom.com
E-mail: info@salgrom.com
Business ID (VAT/Tax): 2408755-0 (FI24087550)

1.4 Emergency Telephone Number

112 (Europe) * See your country specific emergency contact(s).

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the Substance or Mixture

Fire extinguishing agent (fire suppressant) and solid compound forming the actual fire suppressant.

2.2 Label Elements and Hazard and Precautionary Phrases

H332: Harmful if inhaled (*the end product)
H302: Harmful if swallowed
H335: May cause respiratory irritation (*the end product)

P210: Keep away from sources of ignition
P201: Obtain special instructions before use
P102: Keep out of the reach of children
P402: Store in a dry place



2.3 Other Hazards

* See section 11.

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SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 Substances

Main Ingredient (65-67%)		CAS-Number	7757-79-1
Technical Admixtures	Potassium Nitrate (KNO ₃)		
	Dicyandiamide		461-58-5
	Phenol-Formaldehyde Resin		9003-35-4
	Bisphenol A Diglycidyl Ether Resin		25068-38-6
	Iron (III) Oxide		1309-37-1

* This product contains ingredients that are listed on or exempt from listing on the EPA Toxic Substance Control Act Chemical Substance Inventory. All ingredients in this product have not been verified for EINECS listing or the European List of New Chemical Substances (ELINCS).

3.2 Description / Name of the Composition

Armoron FEAC PTC8-type Stabilized Aerosol Extinguishing Chemical (Solid Compound Mixture)

SECTION 4: FIRST AID MEASURES

4.1 Description of First Aid Measures

Remove person(s) to fresh air. If not breathing, apply artificial respiration. Oxygen may be given, but only under supervision of a trained medical person. Transport to hospital or doctor if necessary.

4.2 Most Important Symptoms and Effects

Mild irritation on mucous membranes and respiratory track. On prolonged exposure, headache, nausea, restlessness with dry cough and shortness of breath, delayed reactions.

Prolonged exposure for high aerosol concentrations could be life threatening.

Low risk exposure time for 60g./m³ agent concentration is averagely 15 minutes.

4.3 Indication of any Immediate Medical Attention and Special Treatment Needed

Take measures usual for the inhalation of carbon monoxide and nitrogen oxides.

SECTION 5: FIRE-FIGHTING MEASURES

5.1 Extinguishing Media

All known extinguishing substances can be used. Aerosol is extinguishant in its self.

5.2 Special Hazards Arising from the Substance or Mixture

Inhalation of gaseous extinguishing aerosol formed by the discharge.

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SECTION 6: ACCIDENTAL RELEASE MEASURES
6.1 Personal Precautions, Protective Equipment and Emergency Procedures

If exposure to extinguishing discharging aerosol is possible, the people should always be evacuated as quickly as possible. Ventilate the rooms, areas and zones where agent may have been entered.

6.2 Environmental Precautions

No environmental precautions or measures required.

6.3 Methods and Material for Containment and Clean-Up

No necessary measures required. Possible remains and debris of fire extinguishing aerosol can be removed by airflow, ventilating, vacuuming or by traditional cleaning methods.

SECTION 7: HANDLING AND STORAGE
7.1 Precautions for Safe Handling

Keep away from ignition sources. No smoking. No other handling measures or precautions.

7.2 Conditions for Safe Storage, Including Any Incompatibilities

Store in air-conditioned warehouse, away from heaters and sunlight.
 Storage temperature -50...+65°C.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

If it's necessary to enter in aerosol filled space, wear safety goggles and respiratory mask or other appropriate protective equipment.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES
9.1 Information on Basic Physical and Chemical Properties

Appearance	Solid and odourless chemical compound inside the sealed casing
PH	12 - 13
Flash Point	500°C
Relative Density	1.65g/cm ³
Auto-Ignition Temperature	430°C
Specific Heat Capacity	20°C: 1,23 kJ/kg K
Water Solubility	Non-Soluble
Aerosol Suspension Time	>60min. if not ventilated

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SECTION 10: STABILITY AND REACTIVITY

10.1 Conditions to Avoid

Heat, flames and sparks. Very high temperatures and direct sunlight. Fire extinguishing aerosol is not recommended without preliminary testing for extinguishing fires which are due to certain chemicals or mixtures of chemicals, such as cellulose nitrate, reactive metals such as sodium, potassium, magnesium, titanium, zirconium, uranium, plutonium, metal hybrids, metal amides, certain organic peroxides and hydrazine, white phosphorus, organometallic compounds, or fluorine.

10.2 Hazardous Decomposition Products / Composition of Extinguishing Aerosol (Actual End Product)

Concentrations of extinguishing aerosol harmful by-products vary depending on the released quantity of extinguishing agent and the application density (design factor). In addition, a number of different variables and prevailing conditions in each case have affect on the final levels of solids and gases remaining in the protected atmosphere, which is why one specific concentration or the threshold limit cannot be indicated.

Ingredient	Chemical Formula	CAS-Number	Content
Potassium Carbonates, solid	K ₂ CO ₃	584-08-7	~ 18020 ± 280 mg/m ³
Nitrogen Oxides (Nitrogen Dioxide)	NO _x (NO ₂)	- (10102-44-0)	~ 30 – 90ppm (7 - 9mg/m ³)
Water Vapor / Nitrogen Gas	H ₂ O / N ₂	- / 7727-37-9	~ 60 – 65 mg/m ³ / 70 – 75 vol.-%
Carbon Dioxide Gas / Oxygen	CO ₂ / O ₂	124-38-9 / 7782-44-7	~ 1.2 – 2.0 vol.-% / 17 – 20 vol.-%
Carbon Monoxide Gas	CO	630-08-0	~ 0.08 – 0.4 vol.-%
Size of Solid Particles	N/A	N/A	~ 0.5 – 1.0 Micron

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on Toxicological Effects

Skin Corrosion / Irritation

Not likely unless over-sensitivity diagnosed.

Eye Damage / Irritation

Mild irritation of mucous membranes.

Respiratory / Irritation

May cause irritation of upper respiratory track.

Acute Toxicity

Low acute toxicity.

Other Information

Health effects are different for the solid aerosol-generating composition itself and for the fire extinguishing aerosol - the product resulting of combustion of the aerosol-generating composition.
 No oxygen depletion.

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity

Non-toxic and non-harmless to the environment and climate. No stated environmental impact.
 ODP=0 (no effect to ozone layer) GWP=0 (no effect to global warming)
 ALT=0 / Negligible (no atmospheric lifetime)

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SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste Treatment Methods

Used material(s) can be recycled normally - no special methods are required. Out-dated or unused extinguishing units shall be disposed according to local/national hazardous waste regulations.

SECTION 14: PACKING AND SHIPPING INFORMATION

14.1 General and Non-DGR Statement

The product is not classified as dangerous goods and is not subject to DGR-IATA / ADR /RID procedure. The product is stable, non-reactive and not under pressure and can be transported by all cargo forms. * No known transport restrictions.

Evaluation of the technical characteristics of the actual product and its supportive elements thermal actuators (ATAC cords) and electrical actuators (EID ignitors) manufacturer declares that these products does not belong to bluster agents and are not registered in the balance sheets of production, distribution and application of any explosive or unstable materials.

Further confirming that the materials and chemical compounds involved with Salgromatic Fire Suppression Products cannot be categorized or handled in/under DGR regulations as their self-ignition temperatures remain under common solid construction materials and remain stable in all naturally occurring environmental conditions and in the temperatures range of -80...+400°C.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations or Legislation Specific for the Product

BS EN 481:1993 & BS EN 451:1993.
CoSHH Supportive Documents EH40/98 & EH44 and MDHS 14/2

SECTION 16: ADDITIONAL INFORMATION

16.1 Source and Document Use

Salgrom Technologies, Inc. - Copying licensed for internal and regulatory use only.

16.2 Restrictions on Marketing and Export

None (Refer to any other national measures that may be relevant)
No known customs restrictions. Customs Tariff Code: **8424100000**

16.3 Disclaimer

* The information contained herein is based on data believed to be accurate. However, no representation, warranty, or guarantee is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability and completeness of such information for its own particular application, use and/or purpose. Salgrom Technologies Inc. assumes no responsibility for personal injury or property damage resulting from use, handling or from contact with this product.