MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product name:	Annexin V-Elab Fluor® 488 Azide-Free Lyophilized Powder
Catalog Number:	E-CK-A137U
Application:	For research use only

SECTION 2 HAZARDS IDENTIFICATION

2.1 GSH Classification

Classification according to Regulation (EC) No 1272/2008 [GHS/CLP].

Sensitization, skin - Category 1

2. 2 Label Elements

Labeling according to Regulation (EC) No 1272/2008 [GHS/CLP]

Signal Word: WARNING

Danger symbol:

Hazard Statement(s):

H317: May cause an allergic skin reaction.

Precaution Statement(s):

P261: Avoid breathing dust/fumes/gas/mist/vapours/spray.

P272: Contaminated work clothing should not be allowed out of the workplace.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302+352: IF ON SKIN: Wash with plenty of soap and water.

P333+313: If skin irritation or rash occurs: Get medical advice/attention.

2.3 Other hazards

None.

SECTION 3 COMPOSITION/INFORMATION ON INGREDIENTS

Items	Physical form	Hazardous Ingredient	Concentration	CAS No.
E-CK-A137U	Odorless and yellow color, powder	Proclin 300	0.04%	55965-84-9

SECTION 4 FIRST-AID MEASURES

Classification according to GHS

4.1 General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

4.2 If inhaled

If breathed in, move person into fresh air.If not breathing, give artificial respiration. Consult a physician.

4.3 In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Consult a physician.

4.4 In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

4.5 If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

SECTION 5 FIRE FIGHTING MEASURES

5.1 Suitable extinguishing media

Suitable: Water spray, alcohol-resistant foam, dry chemical, carbon dioxide or appropriate foam.

For small fires, use media such as “alcohol” foam, dry chemical or carbon dioxide.

For large fires, apply water from as far as possible. Use large quantities of water applied as a mist or spray. Solid streams of water may be ineffective. Cool affected containers with flooding quantities of water.

5.2 Special precautions for fire-fighters

Protective Equipment: Wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.

5.3 Special hazards arising from the substance or mixture

Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

SECTION 6 ACCIDENTAL RELEASE MEASURES

6.1 Person-related safety precautions

Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapors accumulating to form explosive concentrations. Vapors can accumulate in low areas.

6.2 Measures for environmental protection

Prevent further leakage or spillage if safe to do so. Do not let enter drains. Discharge into the environment must be avoided.

6.3 Measures for containment and cleaning

Contain spillage, and then collect with non-combustible absorbent material (eg. sand, diatomaceous earth, vermiculite). Place in a container for disposal according to local regulations. Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal. Sweep up and shovel. Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13). Keep in suitable, closed containers for disposal.

SECTION 7 HANDLING AND STORAGE

7.1 Handling

Wear appropriate protective clothing and safety gloves.

Avoid inhalation.

Avoid contact with eyes, skin and clothing.

Mechanical exhaust required.

Keep away from ignition sources, heat and flame.

No smoking at working site.

Incompatibilities: Strong oxidizing agents, Strong acids. Handling and unloading should be light, to prevent packaging broken, damp and cause losses.

Working place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

7.2 Storage

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

Keep away from heat, sparks and flame.

Keep away from sources of ignition.

Incompatible: Strong oxidizing agents, Strong acids.

Storage place should be equipped with appropriate varieties and quantities of fire fighting equipment and leakage emergency treatment equipment.

SECTION 8 EXPOSURE CONTROL/PPE

8.1 Engineering Controls

Mechanical exhaust required. Safety shower and eye bath.

8.2 Personal Protective Equipment

Respiratory: Government approved respirator if needed.

Eye/face: Chemical safety goggles if needed.

Clothing: Wear appropriate protective clothing.

Hand/skin: Protective gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body protection: Wear suitable protective clothing according to the concentration and amount of the substance at the workplace.

8.3 Other Protect

No smoking, drinking and eating at working site. Wash thoroughly after handling.

SECTION 9 PHYSICAL/CHEMIICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Physical state liquid

b) Color light yellow

c) Odor No data available

d) Melting point/freezing point -40 °C

e) Initial boiling point and boiling range189 °C

f) Flammability (solid, gas): No data available

g) Upper/lower flammability or explosive limits: No data available

h) Flash point 118 °C - closed cup

i) Autoignition temperature: No data available

j) Decomposition temperature: No data available

k) pH 4.1 at 100 g/l

l) Viscosity Viscosity, kinematic: No data available

Viscosity, dynamic: 58.8 mPa.s at 25 °C

m) Water solubility soluble

n) Partition coefficient: n-octanol/water: No data available

o) Vapor pressure No data available

p) Density 1.03 g/cm3 Relative density No data available

q) Relative vapor density :No data available

r) Particle characteristics: No data available

s) Explosive properties No data available

t) Oxidizing properties No data available

9.2 Other safety information

No data available

SECTION 10 STABILITY AND REACTIVITY

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Heat, flames and sparks

10.5 Incompatible materials

Strong oxidizing agent, Light sensitive, Alcohols, Organic materials, Heavy metals, Powdered metals, Strong reducing agents, Amines, Mercaptans.

10.6 Hazardous decomposition products

Other decomposition products: No data available

Hazardous decomposition products formed under fire conditions: Carbon oxides, Nitrogen oxides (NOx), Sulphur oxides, Hydrogen chloride gas.

SECTION 11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects Mixture

Acute toxicity

LD50 Oral - Rat - 862 mg/kg

Acute toxicity estimate Inhalation - 4 h - 16.67 mg/l - vapor(Calculation method)

LD50 Dermal - Rabbit - 2,800 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: Corrosive

Remarks: Mixture causes burns.

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Corrosive to eyes

Respiratory or skin sensitization- Guinea pig

Result: May cause sensitization by skin contact.

Germ cell mutagenicity: No data available

Carcinogenicity: No data available

Reproductive toxicity: No data available

Specific target organ toxicity - single exposure: No data available

Specific target organ toxicity - repeated exposure: No data available

Aspiration hazard: No data available

11.2 Additional Information

Other dangerous properties can not be excluded.

Handle in accordance with good industrial hygiene and safety practice.

Components

Modified alkyl carboxylate

Acute toxicity

Oral: No data available

Inhalation: No data available

Dermal: No data available
Skin corrosion/irritation: No data available
Serious eye damage/eye irritation: No data available
Respiratory or skin sensitization: No data available
Germ cell mutagenicity: No data available
Carcinogenicity: No data available
Reproductive toxicity: No data available
Specific target organ toxicity - single exposure: No data available
Specific target organ toxicity - repeated exposure: No data available
Aspiration hazard: No data available
Mixture of 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1)
Acute toxicity
LD50 Oral - Rat - male and female - 66 mg/kg
(OECD Test Guideline 401)
LC50 Inhalation - Rat - male and female - 4 h - 0.171 mg/l - aerosol
(OECD Test Guideline 403)
LD50 Dermal - Rabbit - male - 87.12 mg/kg
Remarks: (ECHA)
Skin corrosion/irritation
Skin - Rabbit
Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.
(OECD Test Guideline 404)
Serious eye damage/eye irritation
Eyes - Rabbit
Result: Causes serious eye damage.
Remarks: (ECHA)
Respiratory or skin sensitization
Maximization Test - Guinea pig
Result: positive
(OECD Test Guideline 406)
Germ cell mutagenicity
Test Type: Ames test
Test system: Salmonella typhimurium
Result: positive
Test Type: In vitro mammalian cell gene mutation test
Test system: mouse lymphoma cells
Result: positive
Test Type: Ames test
Test system: Salmonella typhimurium
Result: Positive results were obtained in some in vitro tests.
Test Type: UDS (Unscheduled DNA synthesis assay)
Test system: rat hepatocytes
Result: negative

Test Type: Mutagenicity (mammal cell test): chromosome aberration.
Test system: Human lymphocytes
Result: positive
Method: OECD Test Guideline 475
Species: Mouse - male and female - Bone marrow
Result: negative
Method: OECD Test Guideline 486
Species: Rat - male - Liver cells
Result: negative
Method: US-EPA
Species: Mouse - male and female - Bone marrow
Result: negative
Method: US-EPA
Species: Rat - male - Liver cells
Result: negative
Method: OECD Test Guideline 474
Species: Mouse - male and female - Red blood cells (erythrocytes)
Result: negative
Carcinogenicity: No data available
Reproductive toxicity: No data available
Specific target organ toxicity - single exposure: No data available
Specific target organ toxicity - repeated exposure
Aspiration hazard: No data available

SECTION 12 ECOLOGICAL INFORMATION

12.1 Toxicity
Mixture: No data available
12.2 Persistence and degradability: No data available
12.3 Bioaccumulative potential: No data available
12.4 Mobility in soil: No data available
12.5 Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted
12.6 Endocrine disrupting properties: No data available
12.7 Other adverse effects: No data available
Components
Modified alkyl carboxylate: No data available
Mixture of 5-Chloro-2-methyl-4-isothiazolin-3-one and 2-Methyl-2H -isothiazol-3-one (3:1)
Toxicity to fish flow-through test LC50 - Oncorhynchus mykiss (rainbow trout)- 0.19 mg/l - 96 h(US-EPA)
Toxicity to daphnia and other aquatic invertebrates
flow-through test LC50 - Daphnia magna (Water flea) - 0.18 mg/l - 48 h(US-EPA)
Toxicity to bacteria static test EC50 - activated sludge - 4.5 mg/l - 3 h(OECD Test Guideline 209)
Toxicity to

fish(Chronic toxicity)semi-static test NOEC - Oncorhynchus mykiss (rainbow trout) -0.098 mg/l - 35 d(OECD Test Guideline 215)

Toxicity to daphnia and other aquatic invertebrates(Chronic toxicity)

flow-through test NOEC - Daphnia magna (Water flea) - 0.1 mg/l - 21 d(US-EPA)

SECTION 13 DISPOSAL CONSIDERATION

13.1 Disposal methods

Dispose of waste in accordance to applicable national, regional, or local regulations. Burn in a chemical incinerator equipped with an afterburner and scrubber b highly flammable. Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material.

13.2 Contaminated packaging

Dispose in the same manner as unused product.

SECTION 14 TRANSPORT INFORMATION

RID/ADR: Non-Hazardous for Transport: This substance is considered to be non-hazardous for transport.

IATA: Non-Hazardous for Air Transport.

IMO: Non-Hazardous for Sea Transport.

SECTION 15 REGULATORY INFORMATION

This material safety data sheet complies with the requirements of Regulation (EC) No. 1272/2008 and its amendments.

SECTION 16 OTHER INFORMATION

IMPORTANT! Read the safety data sheets before the use and disposal of this product. Insure that this information is understood by the operators exposed to this product. Use this product for the intended purpose as indicated in the instruction manual.

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as guide. We make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from this use. Users should make their own investigation to determine the suitability of the information for their particular purposes. In no way shall we be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising from using the above information.