Elabscience Biotechnology Co., Ltd

MATERIAL SAFETY DATA SHEET

SECTION 1 PRODUCT AND COMPANY IDENTIFICATION

Product name:	One-step TUNEL Assay Kit (Red, AF647)
Cat. No.	E-CK-A324
Application	For research use only
Company:	Elabscience Biotechnology Co., Ltd
Address:	Building B18, Biomedical Park, # 858 Gaoxin Road, Donghu Hi-Tech Development Area, Wuhan, Hubei, China
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Emergency	86-27-87385095

SECTION 2 HAZARDS IDENTIFICATION

Items	Physical form	Hazardous Ingredient	Concentration	CAS No.
Reagent 1	Odorless and brown color, liquid	Cobalt(II) chloride	0.012%	7646-79-9
Reagent 2	Odorless and colorless, liquid	2-Mercaptoethanol	0.024%	60-24-2
Reagent 3	Odorless and colorless, liquid	Proteinase K	0.2%	39450-01-6
Reagent 4	Odorless and blue color, liquid	Diglyme	0.1%	111-96-6
Reagent 5	Odorless and colorless, liquid	DNase I	0.35%	39450-01-6
Reagent 6	Odorless and colorless, liquid	No Hazards	-	-
Reagent 7	Odorless and colorless, liquid	DAPI	2.5%	28718-90-3

2.1 HAZARD STATEMENT

Classification according to GHS

2.1.1 Cobalt (II) chloride

H302: Harmful if swallowed.

H317: May cause an allergic skin reaction.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H341: Suspected of causing genetic defects.

H350i: May cause cancer by inhalation.

H360: May damage fertility or the unborn child.

H410: Very toxic to aquatic life with long lasting effects.

2.1.2 2-Mercaptoethanol

H301 + H331: Toxic if swallowed or if inhaled.

H310: Fatal in contact with skin.

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H318: Causes serious eye damage.

H361d: Suspected of damaging the unborn child.

H373: May cause damage to organs (Liver, Heart) through prolonged or repeated exposure if swallowed.

H410: Very toxic to aquatic life with long lasting effects.

2.1.3 Proteinase K

H315: Causes skin irritation.

H319: Causes serious eye irritation.

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

2.1.4 Diglyme

H226: Flammable liquid and vapor

H360FD: May damage fertility. May damage the unborn child

2.1.5 DNase I

H334: May cause allergy or asthma symptoms or breathing difficulties if inhaled.

2.1.6 DAPI

H315: Causes skin irritation.

H317: May cause an allergic skin reaction.

H335: May cause respiratory irritation.

2.2 PRECAUTION STATEMENT

Classification according to GHS

2.2.1 Cobalt (II) chloride

P273: Avoid release to the environment.

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

P301 + P312: IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell.

P302 + P352: IF ON SKIN: Wash with plenty of water.

P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P308 + P313: IF exposed or concerned: Get medical advice/ attention.

2.2.2 2-Mercaptoethanol

P273: Avoid release to the environment.

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

P301 + P310: IF SWALLOWED: Immediately call a POISON CENTER/ doctor.

P302 + P352 + P310: IF ON SKIN: Wash with plenty of water. Immediately call a POISON CENTER/ doctor.

P304 + P340 + P311: IF INHALED: Remove person to fresh air and keep comfortable for

breathing. Call a POISON CENTER/ doctor.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.2.3 Proteinase K

P261: Avoid breathing dust/fume/gas/mist/vapors/spray.

P264: Wash skin thoroughly after handling.

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

P302 + P352: IF ON SKIN: Wash with plenty of water.

P304+ P340+P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

2.2.4 Diglyme

P201: Obtain special instructions before use.

P202: Do not handle until all safety precautions have been read and understood.

P210: Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.

P233: Keep container tightly closed.

P240: Ground and bond container and receiving equipment.

P308 + P313: IF exposed or concerned: Get medical advice/ attention.

2.2.5 DNase I

P261: Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P284: Wear respiratory protection.

P304 + P340 + P312: IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

P501: Dispose of contents/ container to an approved waste disposal plant.

2.2.5 DAPI

P261: Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P264: Wash skin thoroughly after handling.

P271: Use only outdoors or in a well-ventilated area.

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

P280: Wear protective gloves.

P302 + P352: IF ON SKIN: Wash with plenty of water.

SECTION 3 INFORMATION ON INGREDIENTS

3.1 Reaget 1

Ingredient	Concentration	CAS No.
H_2O	98.518 %	7732-18-5
Tris acetate	0.72 %	6850-28-8
Potassium acetate	0.33 %	127-08-2
Magnesium acetate	0.42 %	16674-78-5
Cobalt(II) chloride	0.012 %	7646-79-9

3.2 Reagent 2

Ingredient	Concentration	CAS No.

H_2O	98.491 %	7732-18-5
Tris hydrochloride	0.92 %	1185-53-1
Sodium chloride	0.36 %	7647-14-5
EDTA disodium salt	0.005 %	6381-92-6
2-Mercaptoethanol	0.024 %	60-24-2
Recombinant TdT	0.20 %	-

3.3 Reagent 3

Ingredient	Concentration	CAS No.
H_2O	98.67 %	7732-18-5
Disodium hydrogen phosphate	0.29 %	7558-79-4
Potassium dihydrogen phosphate	0.02 %	7778-77-0
Sodium chloride	0.80 %	7647-14-5
Potassium chloride	0.02 %	7447-40-7
Recombinant Proteinase K	0.20 %	39450-01-6

3.4 Reagent 4

Ingredient	Concentration	CAS No.
H_2O	96.975%	7732-18-5
Tris hydrochloride	0.92 %	1185-53-1
EDTA disodium salt	0.005 %	6381-92-6
Diglyme	0.1%	111-96-6
AF647-dUTP	2 %	-

3.5 Reagent 5

Ingredient	Concentration	CAS No.
H_2O	48.056 %	7732-18-5
Tris acetate	1.352 %	6850-28-8
Calcium chloride	0.242%	10043-52-4
Glycerol	50 %	56-81-5
DNase I	0.35 %	9003-98-9

3.6 Reagent 7

Ingredient	Concentration	CAS No.
H_2O	48.75%	
DMSO	48.75%	67-68-5
DAPI	2.5%	28718-90-3

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 firefighting 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 firefighting 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 Cobalt (II) chloride

a) Appearance: light blue crystalline
b) Odor: No data available
c) Odor Threshold: No data available
d) pH: No data available
e) Melting point/freezing point: Melting point/range: 724 ℃ - lit.
f) Initial boiling point and boiling range: 1.049 ℃ at 1.013 hPa
g) Flash point: Not applicable
h) Evaporation rate No data available
i) Flammability (solid, gas): The product is not flammable.
j) Upper/lower flammability or explosive limits: No data available
k) Vapor pressure: No data available
l) Vapor density: No data available
m) Relative density: 3,36 g/cm ³at 25 ℃
n) Water solubility: 585,9 g/l at 20 ℃

o) Partition coefficient: n-octanol/water: Not applicable for inorganic substances

p) Autoignition temperature: No data available

q) Decomposition temperature: No data available

r) Viscosity: No data available

s) Explosive properties: No data available

t) Oxidizing properties: No data available

9.2 2-Mercaptoethanol

a) Appearance: colorless liquid

b) Odor: characteristic

c) Odor Threshold: 5,7 ppm

d) pH: 4,5 - 6 at 500 g/l at 20 °C

e) Melting point/freezing point: Melting point: < -50 °C

f) Initial boiling point and boiling range: 157 °C - lit.

g) Flash point: 74 °C - closed cup

h) Evaporation rate: No data available

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

j) Upper/lower flammability or explosive limits: Upper explosion limit: 18 %(V), Lower explosion limit: 2,3 %(V)

k) Vapor pressure: 0,76 hPa at 20 °C

l) Vapor density: 2,70 - (Air = 1.0)

m) Relative density: 1,114 g/cm^3 at 25 °C

n) Water solubility: soluble

o) Partition coefficient: n-octanol/water: log Pow: - 0,056 at 25 °C - Bioaccumulation is not expected.

p) Autoignition temperature: No data available

q) Decomposition temperature: No data available

r) Viscosity: No data available

s) Explosive properties: No data available

t) Oxidizing properties: No data available

9.3 Proteinase K

a) Appearance: white solid

b) Odor: No data available

c) Odor Threshold: No data available

d) pH: No data available

e) Melting point/freezing point: No data available

f) Initial boiling point and boiling range: No data available

g) Flash point: No data available

h) Evaporation rate: No data available

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

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

k) Vapor pressure: No data available

l) Vapor density No data available

m) Relative density: No data available

n) Water solubility: No data available

o) Partition coefficient: n-octanol/water: No data available
p) Autoignition temperature: No data available
q) Decomposition temperature: No data available
r) Viscosity: No data available
s) Explosive properties: No data available
t) Oxidizing properties: No data available

9.4 Diglyme

a) Appearance: colorless liquid
b) Odor: ether-like
c) Odor Threshold: No data available
d) pH: at 20 ℃ neutral
e) Melting point/freezing point: -64 ℃ - lit
f) Initial boiling point and boiling range: 162 ℃ - lit
g) Flash point: 51 ℃ - closed cup
h) Evaporation rate: No data available
i) Flammability (solid, gas): No data available
j) Upper/lower flammability or explosive limits: Upper explosion limit: 17,4 %(V), Lower explosion limit: 1,4 %(V)
k) Vapor pressure: 0,6 hPa at 20 ℃ , 7,7 hPa at 50 ℃
l) Vapor density: 4,62 - (Air = 1.0)
m) Relative density: No data available
n) Water solubility: at 20 ℃ soluble
o) Partition coefficient: log Pow: -0,36 at 25 ℃ - Bioaccumulation is not expected.
p) Autoignition temperature: not auto-flammable
q) Decomposition temperature: > 165 ℃
r) Viscosity: No data available
s) Explosive properties: No data available
t) Oxidizing properties: No data available

9.5 DNase I

a) Appearance: beige lyophilized powder
b) Odor: No data available
c) Odor Threshold: No data available
d) pH: No data available
e) Melting point/freezing point: No data available
f) Initial boiling point and boiling range: No data available
g) Flash point: No data available
h) Evaporation rate: No data available
i) Flammability (solid, gas): No data available
j) Upper/lower flammability or explosive limits: No data available
k) Vapor pressure: No data available
l) Vapor density: No data available
m) Relative density: No data available
n) Water solubility: No data available

o) Partition coefficient: n-octanol/water: No data available
p) Autoignition temperature: No data available
q) Decomposition temperature: No data available
r) Viscosity: No data available
s) Explosive properties: No data available
t) Oxidizing properties: No data available

9.6 DAPI

a) Appearance: Form: powder, Color: yellow
b) Odor: No data available
c) Odor Threshold: No data available
d) pH: 4,0 - 5,0 at 10 g/l at 20 ℃
e) Melting point/freezing point: No data available
f) Initial boiling point and boiling range: No data available
g) Flash point: Not applicable
h) Evaporation rate: No data available
i) Flammability (solid, gas): 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 Cobalt (II) chloride

Acute toxicity

LD50 Oral - Rat - male and female - 537 mg/kg

LD50 Dermal - Rat - male and female - > 2.000 mg/kg

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 4 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: Corrosive

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Suspected of causing genetic defects.

Ames test

S. typhimurium

Result: negative

Mouse - male and female

Result: negative

Carcinogenicity

Carcinogenicity- Mouse- male and female- inhalation (vapor)The value is given in analogy to the following substances:

May cause cancer by inhalation.

IARC: 2B - Group 2B: Possibly carcinogenic to humans (Cobalt(II) chloride)

Reproductive toxicity

Presumed human reproductive toxicant

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 2-Mercaptoethanol

Acute toxicity

LD50 Oral-Mouse -190 mg/kg

Remarks: (RTECS)

LC50 Inhalation -Rat -male -4 h -2,05 mg/I

Remarks: (ECHA)

LD50 Dermal-Rabbit -male and female-112-224 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin Rabbit Result: Irritations

Serious eye damage/eye irritation

Eyes -Rabbit Result: Severe irritations

(Draize Test)

Remarks: (External MSDS)

Risk of corneal clouding.

11.3 Proteinase K

Acute toxicity

No data available

Skin corrosion/irritation

Causes skin irritation.

Serious eye damage/eye irritation

Causes serious eye irritation.

Respiratory or skin sensitization

May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No ingredient of this product present at levels greater than or equal to 0.1 % is identified as probable, possible or confirmed human carcinogen by IARC.

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

11.4 Diglyme

Acute toxicity

LD50 Oral - Rat - female - 4.760 mg/kg

LC50 Inhalation - Rat - male and female - 7 h - > 11 mg/l

Skin corrosion/irritation

Skin - Rabbit

Result: No skin irritation - 24 h

Serious eye damage/eye irritation

Eyes - Rabbit

Result: No eye irritation

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

Test Type: Ames test

Test system: Salmonella typhimurium

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: unscheduled DNA synthesis assay

Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 482

Result: negative

Test Type: Chromosome aberration test

Species: Rat

Cell type: Bone marrow

Application Route: inhalation (vapor)

Method: OECD Test Guideline 475

Result: negative

Carcinogenicity

No data available

Reproductive toxicity

May damage the unborn child.

May damage fertility.

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.5 DNase I

Acute toxicity

No data available

Skin corrosion/irritation

Skin -human skin

Result: No skin irritation

Serious eye damage/eye irritation

Eyes - chicken

Result: No eye irritatior

Respiratory or skin sensitization

No data available

Germ cell mutagenicity

No data available

reverse mutation assay

S. typhimurium

Result: negative

OECD Test Guideline 474

Mouse

11.6 DAPI

Acute toxicity

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

IARC: No ingredient of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

May cause respiratory irritation.

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

SECTION 12 ECOLOGICAL INFORMATION

12.1 Cobalt (II) chloride

Toxicity

Toxicity to fish: flow-through test LC50 - Danio rerio (zebra fish) – 85.3 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates: flow-through test LC50 - Chironomus sp. - 429 mg/l - 96 h

Toxicity to algae: static test ErC50 - Dunaliella tertiolecta (marine algae) – 71.314 mg/l - 96 h

Toxicity to bacteria: static test EC50 - activated sludge - 120 mg/l - 30 min

Persistence and degradability

The methods for determining the biological degradability are not applicable to inorganic substances.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1 % or higher.

Other adverse effects

No data available

12.2 2-Mercaptoethanol

Toxicity

Toxicity to fish: static test LC50-Leuciscus idus (Golden orfe)-37 mg/l-96 h

Toxicity to daphnia and other aquatic invertebrates: static test EC50-Daphnia magna (Water flea) -0.4 mg/l-48 h

Toxicity to algae: static test ErC50-Desmodesmus subspicatus (green algae)-19 mg/l-72 h

Toxicity to bacteria: static test EC50-Pseudomonas putida-125 mg/l-17 h

Persistence and degradability

Biodegradability: Result: >70 %-rapidly biodegradable

Biochemical Oxygen: 105 mg/g

Chemical Oxygen: 1.894 mg/g

Bioaccumulative potential

Does not accumulate in organisms.

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1 % or higher.

Other adverse effects

Additional ecological information: No data available

12.3 Proteinase K

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

12.4 Diglyme

Toxicity

Toxicity to fish: LC50 - Pimephales promelas (fathead minnow) - 8.569 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates: semi-static test EC50 - Daphnia magna (Water flea) - 943 mg/l – 48 h

Toxicity to algae: semi-static test ErC50 - Pseudokirchneriella subcapitata (green algae) - > 10.000 mg/l-72 h

Persistence and degradability

Biodegradability: aerobic -Exposure time 28 d. Result: 67 %-Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

12.5 DNase I

Toxicity

Toxicity to fish: semi-static test NOEC-Oncorhynchus mykiss (rainbow trout)-100 mg/l-96h

Toxicity to daphnia and other aquatic invertebrates:
static test EC50-Daphnia magna (Water flea)-32.9 mg/l-48 h
static test NOEC-Daphnia magna(Water flea)-10 mg/l-48 h
Toxicity to algae:
static test EC50-Pseudokirchneriella subcapitata(green algae)->200 mg/l-72 h
static test NOEC-Pseudokirchneriella subcapitata(green algae)->200 mg/l-72 h

Persistence and degradability

Biodegradability: aerobic -Exposure time 28 d
Result:99 %-Readily biodegradable.

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

12.6 DAPI

Toxicity

No data available

Persistence and degradability

No data available

Bioaccumulative potential

No data available

Mobility in soil

No data available

Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Other adverse effects

No data available

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.