

According to 190/2006/EC (REACH), 1272/2008/EC (CLP) and GHS

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**SECTION 1 IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**

**1.1 PRODUCT IDENTIFIER/TRADE NAME:**

STAR MICRO-PAVE AVIATOR

**1.2 RELIVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:**

No further relevant information available.

**Application of the Substance / the Mixture:** Sealcoating for Pavements

**1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:**

**Manufacturer/Supplier:** Specialty Technology And Research, Incorporated (S.T.A.R., Inc.)  
1150 Milepost Drive, Columbus, Ohio 43228  
Tel: +1-614-870-0744 • Fax: +1-614-870-0598 • Toll Free +1-800-759-1912  
Web Site: www.starseal.com

**1.4 EMERGENCY TELEPHONE NUMBER:**

ChemTel, Inc.  
(800)255-3924, +1(813)248-0585

**SECTION 2 HAZARDS IDENTIFICATION**

**2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:**

**CLASSIFICATION ACCORDING TO REGULATION (EC) NO. 1272/2008**



Health Hazard

Carc.	2	H351	Suspected of causing cancer.
Repr.	1A	H360	May damage fertility or the unborn child.



Skin Sens. 1 H317 May cause an allergic skin reaction.

**CLASSIFICATION ACCORDING TO DIRECTIVE 67/548/ECC or DIRECTIVE 1999/45/EC**



T; Toxic

R60-61: May impair fertility. May cause harm to the unborn child.



Xn; Harmful

R40 Limited evidence of a carcinogenic effect.

**Information concerning particular hazards for human and environment:**

The product has to be labeled due to the calculation procedure of the "General Classification guideline for preparations of the EU" in the latest valid version.

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**Classification system:**

The classification is according to the latest editions of the EU-lists, and extended by company and literature data.

The classification is in accordance with the latest editions of international substances lists, and is supplemented by information from technical literature and by information provided by the company.

**2.2 Label Elements**

**Labeling according to Regulation (EC) No 1272/2008**

The product is classified and labeled according to the CLP regulation.

**Hazard pictograms**



GHS07 GHS08

**Signal word** Danger

**Hazard-determining components of labeling:**

Asphalt  
2,2',2''-(hexahydro-1,3,5-triazine-1,3,5-triyl) triethanol  
Carbon black  
Ethanol, 2,2'-iminobis-, N-coco alkyl derivs.

**Hazard statements**

H317 May cause an allergic skin reaction.  
H350 Suspected of causing cancer.  
H360 May damage fertility or the unborn child.

**Precautionary statements**

P261 Avoid breathing mist/vapors/spray.  
P281 Use personal protective equipment as required.  
P308+P313 IF exposed or concerned: Get medical advice/attention.  
P333+P313 If skin irritation or rash occurs: Get medical advice/attention.  
P302+P352 IF ON SKIN: Wash with plenty of water.  
P501 Dispose of contents/container in accordance with local/regional/national/international regulations.

**Additional information:**

Restricted to professional users.

**Hazard description:**

**WHMIS-symbols:**

D2A - Very toxic material causing other toxic effects



**NFPA ratings (Scale 0-4)**



Health = 2  
Fire = 1  
Reactivity = 0

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**HMIS ratings (Scale 0-4)**

HEALTH	*2
FLAMMABILITY	1
REACTIVITY	0

Health = \*2

Fire = 1

Reactivity = 0

\* - Indicates a long term health hazard from repeated or prolonged exposures.

**HMIS Long Term Health Hazard Substances**

14808-60-7 quartz
13463-67-7 titanium dioxide
8052-42-4 Asphalt

**2.3 Other Hazards**

**Results of PBT and vPvB assessment**

- PBT: Not applicable.
- vPvB: Not applicable.

**SECTION 3**

**COMPOSITION / INFORMATION ON INGREDIENTS**

**3.2 Mixtures**

**Description:** Mixture of substances listed below with nonhazardous additions

**Dangerous components:**

CAS: 8052-42-4 EINECS: 232-490-9 Index number: 648-055-00-5	Asphalt. PBT ☠ T Repr. Cat. 1 R60-61; ☠ Xn R40 Carc, Cat. 3 ☠ Carc. 2, H351; Repr. 1A, H360	25-50%
CAS: 1332-58-7 EC number: 310-194-1	Kaolin substance with a Community workplace exposure limit	2.5-10%
CAS: 1333-86-4 EINECS: 215-609-9	Carbon Black ☠ Xn R40 Carc, Cat. 3 ☠ Carc. 2, H351	1-3%
CAS: 14808-60-7	Quartz substance with a Community workplace exposure limit	2.5-10%
CAS: 4719-04-4 EINECS: 225-208-0 Index number: 613-114-00-6	2,2'.2"- (Hexahydro-1,3,5-Triazine-1,3,5-triyl)triethanol ☠ T R23-48/23; ☠ Xn R22; ☠ Xi R43 ☠ Acute Tox. 4, H302; Skin Sens. 1, H317	≤ 2.5%
CAS: 61791-31-9 EINECS: 263-163-9	Ethanol, 2,2'-iminobis-, N-coco alkyl derivs. ☠ C R34; ☠ Xn R22 ☠ Skin Corr. 1B, H314; Eye Dam. 1, H318 ☠ Aquatic Acute 1, H400 ☠ Acute Tox. 4, H302; Skin Sens. 1, H317	≤ 2.5%

**Additional information:** For the wording of the listed risk phrases refer to section 16.

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## SECTION 4

## FIRST AID MEASURES

### 4.1 Description of first aid measures

**General information:** Immediately remove any clothing soiled by the product.

**After inhalation:**

Supply fresh air; consult doctor in case of complaints.  
Provide oxygen treatment if affected person has difficulty breathing.

**After skin contact:**

Do not pull solidified product off the skin.  
Immediately wash with water and soap and rinse thoroughly.  
Remove any clothing soiled by the product.  
If skin irritation continues, consult a doctor.

**After eye contact:**

Remove contact lenses if worn.  
Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.

**After swallowing:**

Rinse out mouth and then drink plenty of water.  
Do not induce vomiting; call for medical help immediately.

### 4.2 Most important symptoms and effects, both acute and delayed

Allergic reactions  
Slight irritant effect on skin and mucous membranes.  
Slight irritant effect on eyes.

**Hazards**

Carcinogenic.  
May damage fertility or the unborn child.  
Possible risk of irreversible effects.

### 4.3 Indication of any immediate medical attention and special treatment needed

If swallowed, gastric irrigation with added, activated carbon.  
Contains 2.2'2"-(Hexahydro-1.3.5-triazine-1.3.5-triyl)triethanol. May produce an allergic reaction.

## SECTION 5

## FIRE FIGHTING MEASURES

### 5.1 Extinguishing media

**Suitable extinguishing agents:** Use fire extinguishing methods suitable to surrounding conditions.

**For safety reasons unsuitable extinguishing agents:** None

### 5.2 Special hazards arising from the substance or mixture

Formation of toxic gases is possible during heating or in case of fire.

### 5.3 Advice for firefighters

**Protective equipment:**

Wear self-contained respiratory protective device.  
Wear fully protective suit.

**Additional information** No further relevant information available



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## SECTION 6

## ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation.  
Wear protective equipment. Keep unprotected persons away.  
For large spills, use respiratory protective device against the effects of fumes/dust/aerosol.

### 6.2 Environmental precautions:

Do not allow to enter sewers/ surface or ground water.

### 6.3 Methods and material for containment and cleaning up:

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Pick up mechanically.  
Dispose contaminated material as waste according to item 13.  
Send for recovery or disposal in suitable receptacles.

### 6.4 Reference to other sections

See Section 7 for information on safe handling.  
See Section 8 for information on personal protection equipment.  
See Section 13 for disposal information.

## SECTION 7

## HANDLING AND STORAGE

### 7.1 Precautions for safe handling

Use only in well ventilated areas.  
Open and handle receptacle with care.  
Prevent formation of aerosols.

**Information about fire - and explosion protection:** Keep respiratory protective device available.

### 7.2 Conditions for safe storage, including any incompatibilities

#### Storage:

**Requirements to be met by storerooms and receptacles:** Store only in the original receptacle.

#### Information about storage in one common storage facility:

Store away from foodstuffs.  
Store away from oxidizing agents.  
Do not store together with acids.

#### Further information about storage conditions:

Store in cool, dry conditions in well sealed receptacles.  
Protect from frost.

### 7.3 Specific end use(s) No further relevant information available.

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**SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION**

**Additional information about design of technical facilities:** No further data; see item 7.

**8.1 Control parameters**

**Ingredients with limit values that require monitoring at the workplace:**

**8052-42-4 Asphalt**

REL (USA)	Ceiling limit: 5* mg/m <sup>3</sup> *15-min: See Pocket Guide App A
TLV (USA)	Long-term value: 0.2 mg/m <sup>3</sup> *inh. fraction as benzene-soluble aerosol; BEIp
EL (Canada)	Long-term value: 0.5 mg/m <sup>3</sup> Inhalable IARC 2B
EV (Canada)	Long-term value: 0.5 mg/m <sup>3</sup> fume, as benzene-soluble aerosol, inhalable

**1332-58-7 Kaolin**

PEL (USA)	Long-term value: 15* 5** mg/m <sup>3</sup> *total dust **respirable fraction
REL (USA)	Long-term value: 10* 5** mg/m <sup>3</sup> *total dust **respirable fraction
TLV (USA)	Long-term value: 2* mg/m <sup>3</sup> E; as respirable fraction
EL (Canada)	Long-term value: 2 mg/m <sup>3</sup>
EV (Canada)	Long-term value: 2(D) mg/m <sup>3</sup> respirable

**1333-86-4 Carbon Black**

PEL(USA)	Long-term value: 3.5 mg/m <sup>3</sup>
REL (USA)	Long-term value: 3.5* mg/m <sup>3</sup> *0.1 in presence of PAHs; See Pocket Guide Apps. A+C
TLV (USA)	Long-term value: 3* mg/m <sup>3</sup> *inhalable fraction
EL (Canada)	Long-term value: 3 mg/m <sup>3</sup> IARC 2B
EV (Canada)	Long-term value: 3.5 mg/m <sup>3</sup>

**14808-60-7 quartz**

PEL(USA)	see Quartz listing
REL (USA)	Long-term value: 0.05* mg/m <sup>3</sup> *respirable dust; See Pocket Guide App. A
TLV (USA)	Long-term value: 0.025* mg/m <sup>3</sup> *as respirable fraction
EL (Canada)	Long-term value: 0.025 mg/m <sup>3</sup> ACGIH A2; IARC 1
EV (Canada)	Long-term value: 0.10* mg/m <sup>3</sup> *respirable fraction

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**DNELs** No further relevant information available.  
**PNECs** No further relevant information available.

<b>Ingredients with biological limit values:</b>	
<b>8052-42-4 Asphalt</b>	
BEI (USA)	- Medium: urine Time: end of shift at end of workweek Parameter: 1-Hydroxypyrene with hydrolysis (nonquantitative)

**Additional information:** The lists valid during the making were used as basis.

## 8.2 Exposure controls

### Personal protective equipment:

#### General protective and hygienic measures:

The usual precautionary measures are to be adhered to when handling chemicals.  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Store protective clothing separately.  
Do not inhale gases / fumes / aerosols.  
Avoid contact with the eyes and skin.  
Pregnant women should strictly avoid inhalation or skin contact.

#### Respiratory protection:

Not required under normal conditions of use.  
Use suitable respiratory protective device when aerosol or mist is formed.  
Use suitable respiratory protective device in case of insufficient ventilation.  
For spills, respiratory protection may be advisable.

#### Protection of hands:

Protective gloves



The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation.

#### Material of gloves

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

#### Penetration time of glove material

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

#### Eye protection:

Safety glasses



#### Body protection:

Protective work clothing

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**Limitation and supervision of exposure into the environment**

No further relevant information available.

**Risk management measures**

See Section 7 for additional information.

**8.3 Other Information:** No further relevant information available.

**SECTION 9**

**PHYSICAL AND CHEMICAL PROPERTIES**

**9.1 Information on basic physical and chemical properties**

**General Information:**

**Appearance:**

Form..... Heavy Bodied Semi-Fluid Liquid  
Color ..... Dark Brown

**Odor** ..... Neutral

**Odor Threshold** ..... Not determined

**Ph Value** ..... 7.0 - 8.0

**Change in Condition:**

Melting point/Melting Range ..... Not Determined  
Boiling point/Boiling range ..... >212° F / >100° C

**Flash Point**.....>200° F / >93° C

**Flammability (Solid Gaseous)**..... Not Applicable

**Auto/Self-Ignition Temperature** ..... Not determined

**Decomposition Temperature** ..... Not determined

**Self-Igniting** ..... Product is not self-igniting.

**Danger of Explosion** ..... Product does not present an explosion Hazard.

**Explosion Limits:**

Lower ..... Not determined  
Upper ..... Not determined

**Vapor Pressure** ..... Not determined

**Density at 20° C** ..... 1.10 – 1.20 g/cm<sup>3</sup>

**Relative Density** ..... Not Determined

**Vapor Density** ..... Not Determined

**Evaporation Rate** ..... Not Determined

**Solubility in/Miscibility with Water** ..... Dilutable with water

**Partition Coefficient (n-octanol/water)** Not Determined

**Viscosity:**

Dynamic ..... Not Determined  
Kinematic ..... Not Determined

**9.2 Other Information:** No further relevant information available

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## SECTION 10

## STABILITY AND REACTIVITY

### 10.1 Reactivity

### 10.2 Chemical stability

**Thermal decomposition/conditions to be avoided:**

No decomposition if used and stored according to specifications.

### 10.3 Possibility of hazardous reactions

Toxic fumes may be released if heated above the decomposition point.

Reacts with strong oxidizing agents.

Reacts with strong acids.

### 10.4 Conditions to avoid: Store away from oxidizing agents.

### 10.5 Incompatible materials: No further relevant information available.

### 10.6 Hazardous decomposition products: Carbon monoxide and carbon dioxide

## SECTION 11

## TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

**Acute toxicity:**

**Primary irritant effect:**

**On the skin:** Slight irritant effect on skin and mucous membranes.

**On the eye:** Slight irritant effect on eyes.

**Sensitization:** Sensitization possible through skin contact.

**Additional toxicological information:**

The product shows the following dangers according to the calculation method of the General EU Classification Guidelines for Preparations as issued in the latest version:

Suspected of causing cancer.

May damage fertility or the unborn child.

**Repeated dose toxicity:**

May cause damage to organs through prolonged or repeated exposure.

Repeated exposures may result in skin sensitivity.

**CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction):**

Carc. 2, Repr. 1A

## SECTION 12

## ECOLOGICAL INFORMATION

### 12.1 Toxicity

**Aquatic toxicity:**

The product contains materials that are harmful to the environment

### 12.2 Persistence and degradability No further relevant information available.

### 12.3 Bioaccumulative potential No further relevant information available.

### 12.4 Mobility in soil No further relevant information available.

**Ecotoxicological effects:**

**Remark:**

Due to mechanical actions of the product (e.g. agglutinations) damages may occur.

The product is oxygen-consuming. The declared action may be partly caused by lack of oxygen.

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**Additional ecological information:**

**General notes:**

Water hazard class 1 (German Regulation) (Self-assessment): slightly hazardous for water  
Do not allow product to reach ground water, water course or sewage system.  
Danger to drinking water if even small quantities leak into the ground.

**12.5 Results of PBT and vPvB assessment**

- PBT:** Not applicable.
- vPvB:** Not applicable.

**12.6 Other adverse effects:** No further relevant information available.

**SECTION 13 DISPOSAL CONSIDERATION**

**13.1 Waste treatment methods**

**Recommendation:**

Must not be disposed together with household garbage. Do not allow product to reach sewage system.  
Can be burned with household garbage after consulting with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.  
Can be disposed of with household garbage after solidification following consultation with the waste disposal facility operator and the pertinent authorities and adhering to the necessary technical regulations.  
The user of this material has the responsibility to dispose of unused material, residues and containers in compliance with all relevant local, state and federal laws and regulations regarding treatment, storage and disposal for hazardous and nonhazardous wastes. Residual materials should be treated as hazardous.

**Uncleaned packaging:** Disposal must be made according to official regulations.

**Recommendation cleansing agents:** Water, if necessary together with cleansing agents.

**SECTION 14 TRANSPORTATION INFORMATION**

<b>14.1 UN-Number</b> DOT, ADR, ADN, IMDG, IATA	Not Regulated
<b>14.2 UN proper shipping name</b> DOT, ADR, ADN, IMDG, IATA	Not Regulated
<b>14.3 Transport hazard class(es)</b> DOT, ADR, ADN, IMDG, IATA Class	Not Regulated
<b>14.4 Packing group</b> DOT, ADR, IMDG, IATA	Not Regulated
<b>14.5 Environmental hazards:</b> Marine pollutant:	No
<b>14.6 Special precautions for user:</b>	Not Applicable
<b>14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:</b> UN "Model Regulation":	Not applicable. -

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**SECTION 15**

**REGULATORY INFORMATION**

**15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture  
United States (USA)**

**SARA**

**Section 355 (extremely hazardous substances):**

None of the ingredients is listed.

**Section 313 (Specific toxic chemical listings):**

None of the ingredients is listed.

**TSCA (Toxic Substances Control Act):**

All ingredients are listed.

**Proposition 65 (California):**

**Chemicals known to cause cancer:**

Reference to Carbon Black is based on unbound respirable particles and is not generally applicable to product as supplied.

Reference to Titanium Dioxide is based on unbound respirable particles and is not generally applicable to product as supplied.

Reference to Crystalline Silica and/or Quartz is based on unbound respirable particles and is not generally applicable to product as supplied.

8052-42-4	asphalt
1333-86-4	carbon black
14808-60-7	quartz
13463-67-7	titanium dioxide

**Chemicals known to cause reproductive toxicity for females:**

None of the ingredients are listed.

**Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.

**Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.

**Carcinogenic Categories**

**EPA (Environmental Protection Agency)**

None of the ingredients is listed

**IARC (International Agency for Research on Cancer)**

8052-42-4	Asphalt	2B
1333-86-4	Carbon Black	2B
14808-60-7	quartz	1
9003-01-4	Carbopols	3
13463-67-7	titanium dioxide	2B

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TLV (Threshold Limit Value established by ACGIH)		
8052-42-4	Asphalt	A4
1332-58-7	Kaolin	A4
1333-86-4	Carbon Black	A4
14808-60-7	quartz	A2
13463-67-7	titanium dioxide	A4

NIOSH-Ca (National Institute for Occupational Safety and Health)		
8052-42-4	Asphalt	A4
1333-86-4	Carbon Black	A4
14808-60-7	quartz	A2
13463-67-7	titanium dioxide	A4

**Canada**

Canadian Domestic Substances List (DSL)
All ingredients are listed.

Canadian Ingredient Disclosure list (limit 0.1%)
None of the ingredients is listed

Canadian Ingredient Disclosure list (limit 1%)
1333-86-4 Carbon Black
14808-60-7 quartz

**Other regulations, limitations and prohibitive regulations**

This product has been classified in accordance with hazard criteria of the Controlled Products Regulations and the SDS contains all the information required by the Controlled Products Regulations.

Substances of very high concern (SVHC) according to REACH, Article 57
None of the ingredients is listed

**15.2 Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

**SECTION 16**

**OTHER INFORMATION**

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

**Relevant phrases**

- H302 Harmful if swallowed.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H351 Suspected of causing cancer.
- H360 May damage fertility of the unborn child.
- H400 Very toxic to aquatic life.
  
- R22 Harmful if swallowed.
- R23 Toxic by inhalation.
- R34 Causes burns.
- R40 Limited evidence of a carcinogenic effect.

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- R43 May cause sensitisation by skin contact.  
R48/23 Toxic: danger of serious damage to health by prolonged exposure through inhalation.  
R60 May impair fertility.  
R61 May cause harm to the unborn child.

**Abbreviations and acronyms:**

- ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)  
IMDG: International Maritime Code for Dangerous Goods  
DOT: US Department of Transportation  
IATA: International Air Transport Association  
GHS: Globally Harmonized System of Classification and Labeling of Chemicals  
ACGIH: American Conference of Governmental Industrial Hygienists  
EINECS: European Inventory of Existing Commercial Chemical Substances  
ELINCS: European List of Notified Chemical Substances  
CAS: Chemical Abstracts Service (division of the American Chemical Society)  
NFPA: National Fire Protection Association (USA)  
HMIS: Hazardous Materials Identification System (USA)  
WHMIS: Workplace Hazardous Materials Information System (Canada)  
DNEL: Derived No-Effect Level (REACH)  
PNEC: Predicted No-Effect Concentration (REACH)  
LC50: Lethal concentration, 50 percent  
LD50: Lethal dose, 50 percent  
Acute Tox. 4: Acute toxicity, Hazard Category 4  
Skin Corr. 1B: Skin corrosion/irritation, Hazard Category 1B  
Eye Dam. 1: Serious eye damage/eye irritation, Hazard Category 1  
Skin Sens. 1: Sensitization - Skin, Hazard Category 1  
Muta. 1B: Germ cell mutagenicity, Hazard Category 1B  
Muta. 2: Germ cell mutagenicity, Hazard Category 2  
Carc. 1B: Carcinogenicity, Hazard Category 1B  
Carc. 2: Carcinogenicity, Hazard Category 2  
Repr. 1B: Reproductive toxicity, Hazard Category 1B  
STOT RE 2: Specific target organ toxicity - Repeated exposure, Hazard Category 2  
Aquatic Acute 1: Hazardous to the aquatic environment – Acute Hazard, Category 1  
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1

**Sources**

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- END OF SDS -