

## 1 Identification

- **Product identifier**
- **Trade name:** Hionic-Fluor
- **Article number:** 6013319, 6013311
- **Application of the substance / the mixture** Laboratory chemicals
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**  
PerkinElmer Health Sciences B.V.  
Rigaweg 22  
9723 TH Groningen  
The Netherlands  
Phone: 0031 50 5445900  
Fax: 0031 50 5445950  
www.perkinelmer.com
- **Information department:**  
Quality Assurance, Environment, Safety & Health (QA/ESH)  
SDS.Groningen@perkinelmer.com
- **Emergency telephone number:**  
+31 50 5445971  
CHEMTREC (within U.S.A. and Canada) 1-800-424-9300  
CHEMTREC (from outside U.S.A. and Canada) +1703-527-3887

## 2 Hazard(s) identification

- **Classification of the substance or mixture**



GHS02 Flame

Flam. Liq. 3      H226 Flammable liquid and vapor.



GHS08 Health hazard

Carc. 2      H351 Suspected of causing cancer.  
Repr. 2      H361 Suspected of damaging fertility or the unborn child.



GHS05 Corrosion

Eye Dam. 1      H318 Causes serious eye damage.



GHS09 Environment

Aquatic Chronic 2 H411 Toxic to aquatic life with long lasting effects.



GHS07

Skin Irrit. 2      H315 Causes skin irritation.

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STOT SE 3 H335 May cause respiratory irritation.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms**



GHS02 GHS05 GHS07 GHS08 GHS09

· **Signal word** *Danger*

· **Hazard-determining components of labeling:**

2,2'-iminodiethanol  
Phosphoric acid, butyl ester  
1,2,4-trimethylbenzene  
Alkylphenol Polyglycoether

· **Hazard statements**

H226 Flammable liquid and vapor.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H351 Suspected of causing cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H335 May cause respiratory irritation.  
H411 Toxic to aquatic life with long lasting effects.

· **Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.  
P233 Keep container tightly closed.  
P280 Wear protective gloves/protective clothing/eye protection/face protection.  
P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.  
P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.  
P305+P351+P338 If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.  
· **vPvB:** Not applicable.

**3 Composition/information on ingredients**

· **Chemical characterization: Mixtures**

· **Description:** Mixture: consisting of the following components.

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<b>· Dangerous components:</b>		
95-63-6	1,2,4-trimethylbenzene ⚠ Flam. Liq. 3, H226 ⚠ Aquatic Chronic 2, H411 ⚠ Acute Tox. 4, H332; Skin Irrit. 2, H315; Eye Irrit. 2A, H319; STOT SE 3, H335	40-60%
9016-45-9	Alkylphenol Polyglycoether ⚠ Eye Dam. 1, H318 ⚠ Aquatic Chronic 2, H411 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315	2.5-10%
111-42-2	2,2'-iminodiethanol ⚠ Carc. 2, H351; Repr. 2, H361; STOT RE 2, H373 ⚠ Eye Dam. 1, H318 ⚠ Acute Tox. 4, H302; Skin Irrit. 2, H315 Aquatic Chronic 3, H412	2.5-10%
12788-93-1	Phosphoric acid, butyl ester ⚠ Skin Corr. 1A, H314	2.5-10%
78-40-0	Triethyl phosphate ⚠ Acute Tox. 4, H302; Eye Irrit. 2A, H319	2.5-10%
9016-45-9	Alkylphenol Polyglycoether ⚠ Eye Dam. 1, H318 ⚠ Aquatic Chronic 2, H411 ⚠ Acute Tox. 4, H302	2.5-10%
12645-31-7	Phosphoric acid, 2-ethylhexyl ester ⚠ Flam. Liq. 3, H226 ⚠ Skin Corr. 1B, H314	2.5-10%
577-11-7	Sodium dioctyl sulphosuccinate ⚠ Eye Dam. 1, H318 ⚠ Skin Irrit. 2, H315	2.5-10%
<b>· Non-Dangerous components</b>		
7732-18-5	water, distilled, conductivity or of similar purity	0-2.5%
92-71-7	2,5-Diphenyloxazole (PPO)	0-2.5%
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	0-2.5%

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

#### **4 First-aid measures**

**· Description of first aid measures**

**· General information:**

Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.

**· After inhalation:**

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

In case of unconsciousness place patient stably in side position for transportation.

**· After skin contact:** Immediately wash with water and soap and rinse thoroughly.

**· After eye contact:** Rinse opened eye for several minutes under running water. Then consult a doctor.

**· After swallowing:** If symptoms persist consult doctor.

**· Information for doctor:**

**· Most important symptoms and effects, both acute and delayed** Headache

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· **Indication of any immediate medical attention and special treatment needed**  
No further relevant information available.

**5 Fire-fighting measures**

- **Extinguishing media**
- **Suitable extinguishing agents:**  
Foam  
Fire-extinguishing powder  
Carbon dioxide
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **Special hazards arising from the substance or mixture** No further relevant information available.
- **Advice for firefighters**
- **Protective equipment:** Mouth respiratory protective device.

**6 Accidental release measures**

- **Personal precautions, protective equipment and emergency procedures**  
Wear protective equipment. Keep unprotected persons away.
- **Environmental precautions:**  
Inform respective authorities in case of seepage into water course or sewage system.  
Do not allow to enter sewers/ surface or ground water.
- **Methods and material for containment and cleaning up:**  
Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust).  
Dispose contaminated material as waste according to item 13.  
Ensure adequate ventilation.
- **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.
- **Protective Action Criteria for Chemicals**

· **PAC-1:**

95-63-6	1,2,4-trimethylbenzene	140 ppm
111-42-2	2,2'-iminodiethanol	3 mg/m <sup>3</sup>
78-40-0	Triethyl phosphate	23 mg/m <sup>3</sup>
9016-45-9	Alkylphenol Polyglycolether	43 mg/m <sup>3</sup>
577-11-7	Sodium dioctyl sulphosuccinate	5.7 mg/m <sup>3</sup>
92-71-7	2,5-Diphenyloxazole (PPO)	2.5 mg/m <sup>3</sup>
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	12 mg/m <sup>3</sup>

· **PAC-2:**

95-63-6	1,2,4-trimethylbenzene	360 ppm
111-42-2	2,2'-iminodiethanol	28 mg/m <sup>3</sup>
78-40-0	Triethyl phosphate	250 mg/m <sup>3</sup>
9016-45-9	Alkylphenol Polyglycolether	470 mg/m <sup>3</sup>
577-11-7	Sodium dioctyl sulphosuccinate	63 mg/m <sup>3</sup>
92-71-7	2,5-Diphenyloxazole (PPO)	27 mg/m <sup>3</sup>
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	130 mg/m <sup>3</sup>

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· PAC-3:		
95-63-6	1,2,4-trimethylbenzene	480 ppm
111-42-2	2,2'-iminodiethanol	130 mg/m <sup>3</sup>
78-40-0	Triethyl phosphate	320 mg/m <sup>3</sup>
9016-45-9	Alkylphenol Polyglycoether	5,400 mg/m <sup>3</sup>
577-11-7	Sodium dioctyl sulphosuccinate	380 mg/m <sup>3</sup>
92-71-7	2,5-Diphenyloxazole (PPO)	160 mg/m <sup>3</sup>
13280-61-0	1,4-Bis-(2-methylstyryl)-benzene (bis-MSB)	790 mg/m <sup>3</sup>

## 7 Handling and storage

- **Handling:**
- **Precautions for safe handling** Ensure good ventilation/exhaustion at the workplace.
- **Information about protection against explosions and fires:**  
Keep ignition sources away - Do not smoke.  
Protect against electrostatic charges.
- **Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** No special requirements.
- **Information about storage in one common storage facility:** Not required.
- **Further information about storage conditions:** Keep receptacle tightly sealed.
- **Specific end use(s)** No further relevant information available.

## 8 Exposure controls/personal protection

- **Additional information about design of technical systems:** No further data; see item 7.
- **Control parameters**
- **Components with limit values that require monitoring at the workplace:**  
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
- **Additional information:** The lists that were valid during the creation were used as basis.
- **Exposure controls**
- **Personal protective equipment:**
- **General protective and hygienic measures:**  
Keep away from foodstuffs, beverages and feed.  
Immediately remove all soiled and contaminated clothing.  
Wash hands before breaks and at the end of work.  
Avoid contact with the skin.  
Avoid contact with the eyes and skin.
- **Breathing equipment:**  
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.
- **Protection of hands:**



Protective gloves

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The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.  
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.

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:**



Tightly sealed goggles

**9 Physical and chemical properties**

**Information on basic physical and chemical properties**

**General Information**

**Appearance:**

**Form:** Fluid  
**Color:** Colorless  
**Odor:** Aromatic

**Change in condition**

**Melting point/Melting range:** -44 °C (-47.2 °F)  
-44 °C (-47 °F)  
**Boiling point/Boiling range:** 170 °C (338 °F)

**Flash point:** 48 °C (118.4 °F)

**Ignition temperature:** 520 °C (968 °F)

**Auto igniting:** Product is not selfigniting.

**Danger of explosion:** Product is not explosive. However, formation of explosive air/vapor mixtures are possible.

**Explosion limits:**

**Lower:** 1.1 Vol %  
**Upper:** 7.0 Vol %

**Density at 20 °C (68 °F):** 0.97 g/cm<sup>3</sup> (8.09465 lbs/gal)

**Solubility in / Miscibility with**

**Water:** Not miscible or difficult to mix.

**Viscosity:**

**Dynamic:** Not determined.

**Solvent content:**

**VOC content:** 2.5-10 %

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· **Other information** No further relevant information available.

**10 Stability and reactivity**

- **Reactivity** No further relevant information available.
- **Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **Possibility of hazardous reactions** No dangerous reactions known.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:** Carbon monoxide and carbon dioxide

**11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

**ATE (Acute Toxicity Estimate)**

Oral	LD50	<1,715 mg/kg
Dermal	LD50	6,043 mg/kg (Rabbit)
Inhalative	LC50/4 h	34.4 mg/l (Rat)

**95-63-6 1,2,4-trimethylbenzene**

Oral	LD50	3,400 mg/kg (Rat)
Dermal	LD50	3,160 mg/kg (Rabbit)
Inhalative	LC50/4 h	18 mg/l (Rat)

- **Primary irritant effect:**
- **on the skin:** Irritant to skin and mucous membranes.
- **on the eye:** Strong irritant with the danger of severe eye injury.
- **Sensitization:** No sensitizing effects known.
- **Additional toxicological information:**  
The product shows the following dangers according to internally approved calculation methods for preparations:  
Harmful  
Irritant

· **Carcinogenic categories**

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

111-42-2	2,2'-iminodiethanol	2B
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· **NTP (National Toxicology Program)**

None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**

None of the ingredients is listed.

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## 12 Ecological information

· **Toxicity**

· **Aquatic toxicity:**

**95-63-6 1,2,4-trimethylbenzene**

Inhalative	LC50	7.19-8.28 mg/l (Other fish)
	EC50/48h	6.14 mg/l (Daphnia magna)

**9016-45-9 Alkylphenol Polyglycoether**

Inhalative	LC50	10 mg/l (Other fish)
	EC50/48h	10 mg/l (Daphnia magna)

· **Persistence and degradability** No further relevant information available.

· **Behavior in environmental systems:**

· **Bioaccumulative potential** No further relevant information available.

· **Mobility in soil** No further relevant information available.

· **Ecotoxicological effects:**

· **Remark:** Toxic for fish

· **Additional ecological information:**

· **General notes:**

Water hazard class 2 (Self-assessment): 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.

Also poisonous for fish and plankton in water bodies.

Toxic for aquatic organisms

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**

· **Recommendation:**

Must not be disposed of together with household garbage. Do not allow product to reach sewage system.

· **Uncleaned packagings:**

· **Recommendation:** Disposal must be made according to official regulations.

## 14 Transport information

· **UN-Number**

· **ADR, IMDG, IATA** 1993

· **UN proper shipping name**

· **ADR** 1993 FLAMMABLE LIQUID, N.O.S. (1,2,4-trimethylbenzene)

· **IMDG, IATA** FLAMMABLE LIQUID, N.O.S. (1,2,4-trimethylbenzene)

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Trade name: *Hionic-Fluor*

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· **Transport hazard class(es)**

· **ADR**



· **Class**

3 Flammable liquids

· **Label**

3

· **IMDG, IATA**



· **Class**

3 Flammable liquids

· **Label**

3

· **Packing group**

· **ADR, IMDG, IATA**

III

· **Environmental hazards:**

· **Marine pollutant:**

No

· **Special marking (ADR):**

Symbol (fish and tree)

· **Special precautions for user**

Warning: Flammable liquids

· **Hazard identification number (Kemler code):**

30

· **EMS Number:**

F-E, S-E

· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**

Not applicable.

· **UN "Model Regulation":**

UN1993, FLAMMABLE LIQUID, N.O.S., 3, III

**15 Regulatory information**

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**

· **Sara**

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

None of the ingredient is listed.

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

95-63-6 1,2,4-trimethylbenzene

111-42-2 2,2'-iminodiethanol

9016-45-9 Alkylphenol Polyglycoether

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

95-63-6 1,2,4-trimethylbenzene

ACTIVE

111-42-2 2,2'-iminodiethanol

ACTIVE

78-40-0 Triethyl phosphate

ACTIVE

9016-45-9 Alkylphenol Polyglycoether

ACTIVE

577-11-7 Sodium dioctyl sulphosuccinate

ACTIVE

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**Trade name: Hionic-Fluor**

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7732-18-5	water, distilled, conductivity or of similar purity	ACTIVE
92-71-7	2,5-Diphenyloxazole (PPO)	ACTIVE

**· Hazardous Air Pollutants**

111-42-2	2,2'-iminodiethanol
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**· Proposition 65**

**· Chemicals known to cause cancer:**

111-42-2	2,2'-iminodiethanol
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**· Chemicals known to cause reproductive toxicity for females:**

None of the ingredients is listed.	
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**· Chemicals known to cause reproductive toxicity for males:**

None of the ingredients is listed.	
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**· Chemicals known to cause developmental toxicity:**

None of the ingredients is listed.	
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**· Carcinogenic categories**

**· EPA (Environmental Protection Agency)**

95-63-6	1,2,4-trimethylbenzene	II
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**· TLV (Threshold Limit Value established by ACGIH)**

111-42-2	2,2'-iminodiethanol	A3
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**· MAK (German Maximum Workplace Concentration)**

111-42-2	2,2'-iminodiethanol	0.46 ppm; 2 mg/m <sup>3</sup>
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**· NIOSH-Ca (National Institute for Occupational Safety and Health)**

None of the ingredients is listed.	
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**· GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

**· Hazard pictograms**



GHS02 GHS05 GHS07 GHS08 GHS09

**· Signal word Danger**

**· Hazard-determining components of labeling:**

2,2'-iminodiethanol  
Phosphoric acid, butyl ester  
1,2,4-trimethylbenzene  
Alkylphenol Polyglycoether

**· Hazard statements**

H226 Flammable liquid and vapor.  
H315 Causes skin irritation.  
H318 Causes serious eye damage.  
H351 Suspected of causing cancer.  
H361 Suspected of damaging fertility or the unborn child.  
H335 May cause respiratory irritation.  
H411 Toxic to aquatic life with long lasting effects.

**· Precautionary statements**

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.

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**Trade name: Hionic-Fluor**

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- P233 *Keep container tightly closed.*  
 P280 *Wear protective gloves/protective clothing/eye protection/face protection.*  
 P303+P361+P353 *If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.*  
 P304+P340 *IF INHALED: Remove person to fresh air and keep comfortable for breathing.*  
 P305+P351+P338 *If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.*

· **National regulations:**

· **Technical instructions (air):**

Class	Share in %
Wasser	0-2.5
NK	40-60

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

## 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**

- H226 *Flammable liquid and vapor.*  
 H302 *Harmful if swallowed.*  
 H314 *Causes severe skin burns and eye damage.*  
 H315 *Causes skin irritation.*  
 H318 *Causes serious eye damage.*  
 H319 *Causes serious eye irritation.*  
 H332 *Harmful if inhaled.*  
 H335 *May cause respiratory irritation.*  
 H351 *Suspected of causing cancer.*  
 H361 *Suspected of damaging fertility or the unborn child.*  
 H373 *May cause damage to organs through prolonged or repeated exposure.*  
 H411 *Toxic to aquatic life with long lasting effects.*  
 H412 *Harmful to aquatic life with long lasting effects.*

· **Department issuing SDS:** Quality Assurance, Environment, Safety & Health (QA/ESH)

· **Contact:** SDS.Groningen@perkinelmer.com

· **Date of preparation / last revision** 11/20/2020 / 7

· **Abbreviations and acronyms:**

- RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)  
 ICAO: International Civil Aviation Organisation  
 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  
 IATA: International Air Transport Association  
 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)  
 VOC: Volatile Organic Compounds (USA, EU)  
 LC50: Lethal concentration, 50 percent  
 LD50: Lethal dose, 50 percent  
 PBT: Persistent, Bioaccumulative and Toxic  
 vPvB: very Persistent and very Bioaccumulative  
 NIOSH: National Institute for Occupational Safety  
 OSHA: Occupational Safety & Health

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**Trade name: Hionic-Fluor**

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TLV: Threshold Limit Value  
PEL: Permissible Exposure Limit  
REL: Recommended Exposure Limit  
Flam. Liq. 3: Flammable liquids – Category 3  
Acute Tox. 4: Acute toxicity – Category 4  
Skin Corr. 1A: Skin corrosion/irritation – Category 1A  
Skin Corr. 1B: Skin corrosion/irritation – Category 1B  
Skin Irrit. 2: Skin corrosion/irritation – Category 2  
Eye Dam. 1: Serious eye damage/eye irritation – Category 1  
Eye Irrit. 2A: Serious eye damage/eye irritation – Category 2A  
Carc. 2: Carcinogenicity – Category 2  
Repr. 2: Reproductive toxicity – Category 2  
STOT SE 3: Specific target organ toxicity (single exposure) – Category 3  
STOT RE 2: Specific target organ toxicity (repeated exposure) – Category 2  
Aquatic Chronic 2: Hazardous to the aquatic environment - long-term aquatic hazard – Category 2  
Aquatic Chronic 3: Hazardous to the aquatic environment - long-term aquatic hazard – Category 3  
· **\* Data compared to the previous version altered.**