

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name

Armaflex SF990

1.2 Relevant identified uses of the substance or mixture and uses advised against

Relevant identified uses of the substance or mixture

Adhesive for processing all flexible Armaflex insulation materials (except HT/Armaflex and Armaflex Ultima)

Uses advised against

No data available.

1.3 Details of the supplier of the safety data sheet

Address

Armacell GmbH
Robert-Bosch-Straße 10
48153 Münster

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Information provided by / telephone

Dr. Heribert Quante, Tel.: +49 (0) 251 - 7603-227

Advice on Safety Data Sheet

heribert.quante@armacell.com

1.4 Emergency telephone number

For medical advice (in German and English):

+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)

Aquatic Chronic 3; H412

Classification information

This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:

Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP

Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard pictograms

-

Signal word

-

Hazard statement(s)

H412

Harmful to aquatic life with long lasting effects.

Hazard statements (EU)

EUH208

Contains reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1). May produce an allergic reaction.

Precautionary statement(s)

P273

Avoid release to the environment.

P501

Dispose of contents/container to a facility in accordance with local and national regulations.

2.3 Other hazards

PBT assessment

The components of this product are not considered to be a PBT.

vPvB assessment

The components of this product are not considered to be a vPvB.

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable. The product is not a substance.

3.2 Mixtures

Hazardous ingredients

No	Substance name	Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration
			%
1	zinc oxide		
	1314-13-2 215-222-5 030-013-00-7 01-2119463881-32	Aquatic Acute 1; H400 Aquatic Chronic 1; H410	>= 0.25 - < 2.50 %-b.w.
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene		
	68610-51-5 271-867-2 - 01-2119496062-39	Aquatic Chronic 4; H413 Repr. 2; H361d	< 1.00 %-b.w.
3	reaction mass of: 5-chloro-2-methyl-4-isothiazolin-3-one [EC no. 247-500-7] and 2-methyl-2H -isothiazol-3-one [EC no. 220-239-6] (3:1)		pls. refer to footnote (1)
	55965-84-9 - 613-167-00-5 -	Acute Tox. 3; H301 Acute Tox. 3; H311 Acute Tox. 2; H330 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Skin Corr. 1B; H314 Skin Sens. 1; H317 Eye Dam. 1; H318	< 0.0015 %-b.w.

Full Text for all H-phrases and EUH-phrases: pls. see section 16

(1) Aberrant from/in addition to the classification set out in Annex VI, this substance is classified according to European Regulation (EC) No 1272/2008 (CLP), Article 4 (3), paragraph 2.

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
1	-	-	M = 1	-
3	-	Skin Sens. 1; H317: C >= 0.0015% Eye Irrit. 2; H319: C >= 0.06% Skin Irrit. 2; H315: C >= 0.06% Skin Corr. 1B; H314: C >= 0.6%	-	-

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

In case of persisting adverse effects, consult a physician. Remove contaminated clothing and shoes immediately, and launder thoroughly before reusing.

After inhalation

When inhaled remove to fresh air and seek medical aid.

After skin contact

When in contact with the skin, clean with soap and water.

After eye contact

Remove contact lenses. Rinse eye thoroughly under running water keeping eyelids wide open and protecting the unaffected eye (at least 10 to 15 minutes). Seek medical assistance.

After ingestion

Do not induce vomiting. Rinse mouth thoroughly with water. Never give anything by mouth to an unconscious person. Call a doctor immediately.

4.2 Most important symptoms and effects, both acute and delayed

No data available.

4.3 Indication of any immediate medical attention and special treatment needed

No data available.

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media

Water spray jet; Carbon dioxide; Dry chemical extinguisher; Foam

Unsuitable extinguishing media

High power water jet

5.2 Special hazards arising from the substance or mixture

In the event of fire, the following can be released: Zinc oxides; Carbon monoxide and carbon dioxide

5.3 Advice for firefighters

Use self-contained breathing apparatus. Wear protective clothing. Fire residues and contaminated firefighting water must be disposed of in accordance with the local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

Refer to protective measures listed in sections 7 and 8. Avoid contact with skin, eyes and clothing. Use personal protective clothing.

For emergency responders

Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions

Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil. In case of entry into waterways, soil or drains, inform the responsible authorities.

6.3 Methods and material for containment and cleaning up

Pick up rest with absorbent material (e.g. sand, sawdust, general-purpose binder, kieselguhr). When picked up, treat material as prescribed under heading "Disposal considerations".

6.4 Reference to other sections

No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

General protective and hygiene measures

Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Remove soiled or soaked clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions

Keep container tightly closed in a cool, well-ventilated place. Protect from heat and direct sunlight. Keep from freezing.

Recommended storage temperature

Value	10	-	35	°C
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Storage stability

Value	6	months
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Requirements for storage rooms and vessels

Containers which are opened must be carefully closed and kept upright to prevent leakage. Always keep in containers of same material as the original one.

Advice on storage assembly

Substances to be avoided, pls. See chapter 10.

7.3 Specific end use(s)

No data available.

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

DNEL, DMEL and PNEC values

DNEL values (worker)

No	Substance name			CAS / EC no
	Route of exposure	Exposure time	Effect	Value
1	zinc oxide			1314-13-2 215-222-5
	dermal	Long term (chronic)	systemic	83 mg/kg/day
	with reference to: Zn Comments: insoluble			
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene			68610-51-5 271-867-2
	dermal	Long term (chronic)	systemic	0.42 mg/kg/day
	inhalative	Long term (chronic)	systemic	0.29 mg/m ³

DNEL value (consumer)

No	Substance name			CAS / EC no
	Route of exposure	Exposure time	Effect	Value
1	zinc oxide			1314-13-2 215-222-5
	oral	Long term (chronic)	systemic	0.83 mg/kg/day
	with reference to: Zn Comments: insoluble			
	dermal	Long term (chronic)	systemic	83 mg/kg/day
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene			68610-51-5 271-867-2
	oral	Long term (chronic)	systemic	0.04 mg/kg/day
	dermal	Long term (chronic)	systemic	0.21 mg/kg/day
	inhalative	Long term (chronic)	systemic	0.07 mg/m ³

PNEC values

No	Substance name		CAS / EC no
	ecological compartment	Type	Value
1	zinc oxide		1314-13-2 215-222-5
	water	fresh water	20.6 µg/L
	with reference to: Zn		
	water	marine water	6.1 µg/L
	with reference to: Zn		
	water	fresh water sediment	117.8 mg/kg
	water	marine water sediment	56.5 mg/kg
	with reference to: Zn, dry weight		
	soil	-	35.6 mg/kg
	with reference to: Zn, dry weight		
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene		68610-51-5 271-867-2
	water	fresh water	0.01 mg/L
	water	marine water	0.002 mg/L
	water	fresh water sediment	426.26 mg/kg dry weight
	water	marine water sediment	85.25 mg/kg dry weight
	soil	-	85.16 mg/kg dry weight
	sewage treatment plant	-	100 mg/L
	secondary poisoning	-	1.7 mg/kg food

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

8.2 Exposure controls

Appropriate engineering controls

Ensure adequate ventilation, local exhaust at the work station if necessary.

Personal protective equipment

Respiratory protection

If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified. In case of insufficient ventilation and during spray application respiratory protection necessary.

Eye / face protection

Safety glasses with side protection shield (EN 166)

Hand protection

Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Appropriate Material	nitrile rubber		
Appropriate Material	butyl rubber		
Appropriate Material	neoprene		
Breakthrough time	>	480	min

Other

Chemical-resistant work clothes.

Environmental exposure controls

No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Form/Colour			
liquid			
grey			
Odour			
characteristic			
Odour threshold			
No data available			
pH value			
No data available			
Boiling point / boiling range			
Value	appr.	100	°C

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

Melting point / melting range			
No data available			
Decomposition point / decomposition range			
No data available			
Flash point			
No data available			
Auto-ignition temperature			
No data available			
Oxidising properties			
No data available			
Explosive properties			
No data available			
Flammability (solid, gas)			
No data available			
Lower flammability or explosive limits			
No data available			
Upper flammability or explosive limits			
No data available			
Vapour pressure			
Value	appr.	120	hPa
Reference temperature		50	°C
Vapour density			
No data available			
Evaporation rate			
No data available			
Relative density			
No data available			
Density			
Value	appr.	1.0	g/cm ³
Reference temperature		20	°C
Solubility in water			
Comments	miscible		
Solubility(ies)			
No data available			
Partition coefficient: n-octanol/water			
No	Substance name	CAS no.	EC no.
1	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
log Pow		7.93	
Reference temperature		25	°C
Method	OECD 123		
Source	ECHA		
Viscosity			
No data available			

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity

Dangerous reactions are not expected if the product is handled according to its intended use.

10.2 Chemical stability

Stable under recommended storage and handling conditions (See section 7).

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

10.3 Possibility of hazardous reactions

None, if handled according to order.

10.4 Conditions to avoid

Keep from freezing.

10.5 Incompatible materials

No data available.

10.6 Hazardous decomposition products

None, if handled according to intended use.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute oral toxicity			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
LD50	>	5000	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
LD50	>	5000	mg/kg bodyweight
Species	rat		
Method	OECD 401		
Source	ECHA		
Acute dermal toxicity			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
LD50	>	2000	mg/kg bodyweight
Species	rat		
Method	OECD 402		
Source	ECHA		
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
LD50	>	2000	mg/kg bodyweight
Species	rat		
Method	OECD 402		
Source	ECHA		
Acute inhalational toxicity			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
LC50	>	5.7	mg/l
Duration of exposure		4	h
State of aggregation	Dust/mist		
Species	rat		
Method	OECD 403		
Source	ECHA		
Skin corrosion/irritation			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
Species	rabbit		
Method	OECD 404		
Source	ECHA		
Evaluation	non-irritant		

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

Serious eye damage/irritation			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	non-irritant	
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
	Species	rabbit	
	Method	OECD 405	
	Source	ECHA	
	Evaluation	non-irritant	
Respiratory or skin sensitisation			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
	Route of exposure	respiratory tract	
	Source	ECHA	
	Evaluation	non-sensitizing	
	Evaluation/classification	Based on available data, the classification criteria are not met.	
	Route of exposure	Skin	
	Species	Guinea pig	
	Method	OECD 406	
	Source	ECHA	
	Evaluation	non-sensitizing	
	Evaluation/classification	Based on available data, the classification criteria are not met.	
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
	Route of exposure	Skin	
	Species	guinea pig	
	Method	OECD 406	
	Source	ECHA	
	Evaluation	non-sensitizing	
Germ cell mutagenicity			
No	Substance name	CAS no.	EC no.
1	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
	Method	OECD 471	
	Source	ECHA	
	Evaluation/classification	Based on available data, the classification criteria are not met.	
Reproduction toxicity			
No	Substance name	CAS no.	EC no.
1	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
	Method	OECD 414	
	Source	ECHA	
	Evaluation/classification	Based on available data, the classification criteria are met.	
Carcinogenicity			
No data available			
STOT - single exposure			
No data available			
STOT - repeated exposure			
No data available			
Aspiration hazard			
No data available			
Delayed and immediate effects as well as chronic effects from short and long-term exposure			
Inhalation of vapours may lead to headache, drowsiness and dizziness.			

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	Substance name	CAS no.	EC no.
1	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
LC50	>	0.2	mg/l
Duration of exposure		96	h
Species	Oncorhynchus mykiss		
Method	OECD 203		
Source	ECHA		

Toxicity to fish (chronic)			
No data available			

Toxicity to Daphnia (acute)			
No	Substance name	CAS no.	EC no.
1	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
EC50	>	0.2	mg/l
Duration of exposure		48	h
Species	Daphnia magna		
Method	OECD 202		
Source	ECHA		

Toxicity to Daphnia (chronic)			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
NOEC		82	µg/l
Duration of exposure		7	day(s)
Species	Daphnia magna		
with reference to	pH 6.0		
Source	CSR		

Toxicity to algae (acute)			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
EC50		0.042	mg/l
Duration of exposure		72	h
Species	Algae		
Source	Manufacturer		
2	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
ErC50	>	0.2	mg/l
Duration of exposure		72	h
Species	Pseudokirchneriella subcapitata		
Method	OECD 201		
Source	ECHA		

Toxicity to algae (chronic)			
No	Substance name	CAS no.	EC no.
1	zinc oxide	1314-13-2	215-222-5
NOEC		19	µg/l
Duration of exposure		7	day(s)
Species	Pseudokirchneriella subcapitata		
with reference to	pH 8.0		
Source	CSR		

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

Bacteria toxicity
No data available

12.2 Persistence and degradability

Biodegradability			
No	Substance name	CAS no.	EC no.
1	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
Type	CO2 formation in % of theoretical value		
Value		1	%
Duration		28	day(s)
Method	OECD 301 B		
Source	ECHA		
Evaluation	not readily biodegradable		

12.3 Bioaccumulative potential

Partition coefficient: n-octanol/water			
No	Substance name	CAS no.	EC no.
1	Phenol, 4-methyl-, reaction products with dicyclopentadiene and isobutylene	68610-51-5	271-867-2
log Pow		7.93	
Reference temperature		25	°C
Method	OECD 123		
Source	ECHA		

12.4 Mobility in soil

No data available.

12.5 Results of PBT and vPvB assessment

Results of PBT and vPvB assessment	
PBT assessment	The components of this product are not considered to be a PBT.
vPvB assessment	The components of this product are not considered to be a vPvB.

12.6 Other adverse effects

No data available.

12.7 Other information

Other information
Do not discharge into the drains or waters and do not store on public depositories.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product

Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging

Residuals must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

SECTION 14: Transport information

- 14.1 Transport ADR/RID/ADN**
The product is not subject to ADR/RID/ADN regulations.
- 14.2 Transport IMDG**
The product is not subject to IMDG regulations.
- 14.3 Transport ICAO-TI / IATA**
The product is not subject to ICAO-TI / IATA regulations.
- 14.4 Other information**
No data available.
- 14.5 Environmental hazards**
Information on environmental hazards, if relevant, please see 14.1 - 14.3.
- 14.6 Special precautions for user**
No data available.
- 14.7 Transport in bulk according to Annex II of Marpol and the IBC Code**
Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)

According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation

According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, PREPARATIONS AND ARTICLES

The product is considered being subject to REACH regulation (EC) 1907/2006 annexe XVII.	No 3
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Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances

This product is not subject to Part 1 or 2 of Annex I.

15.2 Chemical safety assessment

A chemical safety assessment has not been carried out for this mixture.

SECTION 16: Other information

Further information

Authors responsible for the compilation of the material safety data sheet: UMCO GmbH - D-21107 Hamburg, Georg-Wilhelm-Strasse 187, Tel.: +49(40)555 546 300, Fax: +49(40)555 546 357, e-mail: umco@umco.de.

The information is based on our current knowledge however it does not represent a guarantee of product properties nor does it create any legal obligation.

Sources of key data used to compile the data sheet:

Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.

EC Directives 2000/39/EC, 2006/15/EC, 2009/161/EU

National Threshold Limit Values of the corresponding countries as amended in each case.

Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.

The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding chapter.

Trade name: Armaflex SF990

Current version : 3.3.0, issued: 11.04.2019

Replaced version: 3.2.0, issued: 04.01.2019

Region: GB

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H301	Toxic if swallowed.
H311	Toxic in contact with skin.
H314	Causes severe skin burns and eye damage.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H330	Fatal if inhaled.
H361d	Suspected of damaging the unborn child.
H400	Very toxic to aquatic life.
H410	Very toxic to aquatic life with long lasting effects.
H413	May cause long lasting harmful effects to aquatic life.

Alterations/supplements:

Alterations to the previous edition are marked in the left-hand margin.

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