

Product: CRAYVALLAC® PA3 S 12

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SDS No.: 211751-001 (Version 2.0)

Date 19.05.2014

1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING**1.1. Identification of the product**

Identification of the mixture: CRAYVALLAC® PA3 S 12

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

Use of the Substance/Mixture : Additive for :, Paints, Coatings, Inks, Adhesives

1.3. Details of the supplier of the safety data sheet

Supplier	Arkema COATING RESINS Arkema France 420, rue d'Estienne d'Orves F-92705 Colombes Cedex France Tel : +33 (0)1 49 00 80 80 Fax : +33 (0)1 49 00 83 96 http://www.arkema.com pars-drp-fds@arkema.com
E-mail address	

1.4. Emergency telephone number

+33 1 49 00 77 77
Numéro d'appel d'urgence européen : 112
ORFILA : 01 45 42 59 59
European emergency phone number : 112

2. HAZARDS IDENTIFICATION**2.1. Classification of the substance or mixture****Classification (REGULATION (EC) No 1272/2008):**

Flammable solids, 1, H228
Inhalation: Acute toxicity, 4, H332
Skin irritation, 2, H315
Eye irritation, 2, H319
Specific target organ toxicity - repeated exposure, 1, H372
Skin sensitisation, 1, H317

Classification according to EU Directives 1999/45/EC :

; R11
; R43
Xi; R36/38
Xn; R48/20

Additional information:

For the full text of the R, H, EUH-phrases mentioned in this Section, see Section 16.

2.2. Label elements**Label elements (REGULATION (EC) No 1272/2008):****Hazardous components which must be listed on the label:**

E96096

styrene

Hazard pictograms:



Signal word:

Danger

Hazard statements:

- H228 : Flammable solid.
- H332 : Harmful if inhaled.
- H315 : Causes skin irritation.
- H319 : Causes serious eye irritation.
- H317 : May cause an allergic skin reaction.
- H372 : Causes damage to organs through prolonged or repeated exposure.

Precautionary statements:

Prevention:

- P210 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
- P260 : Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
- P280 : Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

- P312 : Call a POISON CENTER or doctor/ physician if you feel unwell.
- P333 + P313 : If skin irritation or rash occurs: Get medical advice/ attention.
- P337 + P313 : If eye irritation persists: Get medical advice/ attention.

Storage:

- P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

Potential health effects:

- Inhalation: At high vapour/fog concentrations : Irritating to respiratory system. Risk of : headache Dizziness Stomach/intestinal disorders Drowsiness Nausea
- Skin contact: Repeated or prolonged exposure may cause skin irritation and dermatitis, due to degreasing properties of the product. May cause sensitisation by skin contact.
- Ingestion: At high dose : Risk of : Nausea Gastrointestinal problems Vomiting Central nervous system depression

Environmental Effects:

- Toxic to fish. Toxic to daphnia. Toxic to algae.

Physical and chemical hazards:

- Highly flammable. Thermal decomposition giving toxic products.
- Decomposition products: See chapter 10

Other:

- Results of PBT and vPvB assessment : According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Chemical nature of the mixture¹:

- amide wax

Hazardous components (according to Regulation (EC) No. 1907/2006) :

Chemical Name ¹ & REACH Registration Number ²	EC-No.	CAS-No.	Concentration	Classification Directive 67/548/EEC	Classification REGULATION (EC) No 1272/2008
Styrene (01-2119457861-32)	202-851-5	100-42-5	< 80 %	R10 Xn; R20 Xn; R65 Xi; R36/38 Xn; R48/20	Asp. Tox. 1; H304 Flam. Liq. 3; H226 Acute Tox. 4 (Inhalation); H332 Eye Irrit. 2; H319 Skin Irrit. 2; H315 STOT RE 1; H372
E96096 (01-0000018057-71)	434-430-9		< 15 %	R43 R53	Skin Sens. 1B; H317 Aquatic Chronic 4; H413
Ethanol (01-2119457610-43)	200-578-6	64-17-5	< 10 %	F; R11 Xi; R36	Flam. Liq. 2; H225 Eye Irrit. 2; H319

¹: See chapter 14 for Proper Shipping Name

²: See the text of the regulation for applicable exceptions or provisions : The transition time according to REACH Regulation, Article 23, is still not expired.

For the full text of the R, H, EUH-phrases mentioned in this Section, see Section 16.

4. FIRST AID MEASURES

4.1. & 4.2. Description of necessary first-aid measures & Most important symptoms/effects, acute and delayed:

General advice:

Take off immediately all contaminated clothing (including shoes).

Inhalation:

Move patient from contaminated area to fresh air. Oxygen or artificial respiration if needed. In case of problems : Consult a physician.

Skin contact:

Wash immediately, abundantly and thoroughly with soap and water. In the case of skin irritation or allergic reactions see a physician.

Eye contact:

Wash open eyes immediately, abundantly and thoroughly for at least 15 minutes. Seek advice of an ophthalmologist if necessary.

Ingestion:

Do NOT induce vomiting. Call a physician or Poison Control Center immediately.

Protection of first-aiders:

Protective suit. In case of insufficient ventilation, wear suitable respiratory equipment.

4.3. Indication of immediate medical attention and special treatment needed, if necessary : No data available.

5. FIREFIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Water spray, Water mist, powder, foam, Carbon dioxide (CO₂)

Unsuitable extinguishing media: High volume water jet

5.2. Special hazards arising from the substance or mixture:

Flammable.

thermal decomposition into harmful products

Irritating or toxic vapors.

Formation of toxic products through combustion:., Carbon oxides, Nitrogen oxides (NO_x)

5.3. Advice for firefighters:

Specific methods:

In the event of fire and/or explosion do not breathe fumes. Use water spray to cool unopened containers. Do not allow run-off from fire fighting to enter drains or water courses.

Special protective actions for fire-fighters:

In the event of fire, wear self-contained breathing apparatus.

6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures:

Use personal protective equipment. Ensure adequate ventilation. Evacuate personnel to safe areas. Prohibit all sources of sparks and ignition
- Do not smoke. Prohibit contact with skin and eyes. Avoid inhalation of vapours. In case of insufficient ventilation, wear suitable respiratory equipment

6.2. Environmental precautions:

Do not let product enter drains. Do not flush into surface water. Do not release into the environment. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and materials for containment and cleaning up:

Recovery:

Shovel into suitable container for disposal. Never return spills in original containers for re-use. Absorb the remainder with an inert absorbent material (sand, vermiculite, perlite). No sparking tools should be used.

Elimination: See chapter 13

6.4. Reference to other sections: None.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling:

Technical measures/Precautions:

Storage and handling precautions applicable to products: Solid. Highly flammable Irritant. Harmful. Sensitizing. Provide appropriate exhaust ventilation at machinery. Provide showers, eye-baths Provide water supplies near the point of use. Provide electrical earthing of equipment.

Safe handling advice:

Prohibit all sources of sparks and ignition - Do not smoke. Take precautionary measures against static discharges. In case of insufficient ventilation, wear suitable respiratory equipment

Hygiene measures:

Take off immediately all contaminated clothing. Prohibit contact with skin and eyes. Avoid inhalation of vapours. When using do not eat, drink or smoke.

Wash hands after handling. Remove contaminated clothing and protective equipment before entering eating areas.

7.2. Conditions for safe storage, including any incompatibilities:

Keep tightly closed in a dry, cool and well-ventilated place. Store in original container. Store away from heat and ignition sources. Provide electrical earthing of equipment and electrical equipment usable in explosive atmospheres. Avoid long storage period. Keep away from direct sunlight.

Incompatible products:

Acids, Oxidizing agents

Packaging material:

Recommended: Metals

To be avoided: Plastic materials

7.3. Specific end use(s): None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. Control parameters:

Exposure Limit Values

Styrene

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
ACGIH (US)	2007	TWA	20	-	-
ACGIH (US)	2007	STEL	40	-	-

Ethanol

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
ACGIH (US)	02 2012	STEL	1.000	-	-

Derived No Effect Level (DNEL): E96096 :

End Use	Inhalation	Ingestion	Skin contact
Workers	3 mg/m3 (LT, LE) 18 mg/m3 (ST, SE)		

LE : Local effects, **SE** : Systemic effects, **LT** : Long term, **ST** : Short term

Derived No Effect Level (DNEL): ETHANOL :

End Use	Inhalation	Ingestion	Skin contact
Workers	1900 mg/m3 (ST, LE) 950 mg/m3 (LT, SE)		343 mg/kg (LT, SE)
Consumers	950 mg/m3 (ST, LE) 114 mg/m3 (LT, SE)	87 mg/kg (LT, SE)	206 mg/kg (LT, SE)

LE : Local effects, **SE** : Systemic effects, **LT** : Long term, **ST** : Short term

Predicted No Effect Concentration: E96096 :

Compartment:	Value:
Water	0,0368 mg/l
Soil	103906 mg/kg dw
Sediment	1456 mg/kg dw
Effects on waste water treatment plants	10 mg/l
Marine water	0,00368 mg/l

Predicted No Effect Concentration: ETHANOL :

Compartment:	Value:
Fresh water	0,96 mg/l
Marine water	0,79 mg/l
Water (Intermittent release)	2,75 mg/l
Effects on waste water treatment plants	580 mg/l
Fresh water sediment	3,6 mg/kg dw
Soil	0,63 mg/kg dw
Oral (Secondary Poisoning)	0,72 mg/kg food

8.2. Exposure controls:

Appropriate engineering controls: Frequently monitor and control the working atmosphere.
Provide appropriate exhaust ventilation at machinery.

Personal protective equipment:

Respiratory protection: In case of insufficient ventilation, wear suitable respiratory equipment
In case of mist, spray or aerosol exposure wear suitable personal respiratory protection and protective suit.

Hand protection: Solvent-resistant gloves

Eye/face protection: Safety glasses with side-shields

Skin and body protection: Protective suit.

Environmental exposure controls: See chapter 6

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. Information on basic physical and chemical properties

Appearance:

Physical state (20°C): solid

Form: paste

Colour: off-white

Odour: organic

Olfactory threshold: No data available.

pH: No data available.

Melting point/range: No data available.

Boiling point/boiling range: No data available.

Flash point:	31 °C (Seta Flash Method)
Evaporation rate:	No data available.
Flammability (solid, gas):	
Lower flammable limit :	ETHANOL : 3 - 3,3 %(V) (Reported data)
Upper flammable limit :	ETHANOL : 19 %(V) (Reported data)
Burning rate:	> 2,2 mm/s (The Manual of Tests and Criteria - Part 33.2.1)
Vapour pressure:	No data available.
Vapour density:	No data available.
Density:	0,8 g/cm ³ , at 20 °C
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	STYRENE : log Kow : 2,96 (measured) E96096 : log Kow : 6,21 (calculated) ETHANOL : log Kow : -0,35 , at 24 °C (OECD Test Guideline 107)
Auto-ignition temperature:	No data available.
Decomposition temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	
Explosivity:	Not relevant
Oxidizing properties:	Not relevant

9.2. **Other data:** None.

10. STABILITY AND REACTIVITY

10.1. & 10.2. **Reactivity & Chemical stability:**

The product is stable under normal handling and storage conditions.

10.3. **Possibility of hazardous reactions:**

None under normal conditions of use.

10.4. **Conditions to avoid:**

Store protected from moisture and heat. Remove all sources of ignition.

10.5. **Incompatible materials to avoid:**

Acids, Oxidizing agents

10.6. **Hazardous decomposition products:**

thermal decomposition into harmful products
Irritating or toxic vapors.
Formation of toxic products through combustion:; Carbon oxides, Nitrogen oxides (NO_x)

11. TOXICOLOGICAL INFORMATION

All available data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

11.1. **Information on toxicological effects:**

Acute toxicity:

Inhalation:	From its composition, it must be considered as: Harmful by inhalation.
STYRENE :	
• In man :	Effects of breathing high concentrations of vapour may include:; headache, Drowsiness, Dizziness, Nausea, Loss of consciousness, Coma
• In animals :	LC50/4 h/rat: 10 - 25 mg/l
E96096 :	
• In animals :	No mortality/4 h/rat: 4,1 mg/l (Method: OECD Test Guideline 403), Maximum concentration technically possible
ETHANOL :	
• In animals :	LC50/4 h/rat: = 124,7 mg/l (Method: OECD Test Guideline 403) (vapour)
Ingestion:	According to its composition, can be considered as : Slightly harmful by ingestion

STYRENE :
At high dose :, Ingestion could cause nausea, vomiting, sore throat, stomach-ache
• In animals :
LD50/rat: 1.000 - 5.000 mg/kg
E96096 :

• In animals :
No mortality/rat: 2.000 mg/kg (Method: OECD Test Guideline 423)

ETHANOL :
• In animals :
LD50/rat: 10.470 mg/kg (Method: OECD Test Guideline 401)

Dermal: According to its composition, can be considered as : Slightly harmful in contact with skin

STYRENE :
• In animals :
No mortality/rat: 2.000 mg/kg (Method: OECD Test Guideline 402)
E96096 :

• In animals :
No mortality/rat: 2.000 mg/kg (Method: OECD Test Guideline 402)

ETHANOL :
• In animals :
LDL0/rabbit: = 20.000 mg/kg

Local effects (Corrosion / Irritation / Serious eye damage):

Skin contact: From its composition, it must be considered as: Irritating to skin.

Eye contact: From its composition, it must be considered as: Irritating to eyes.

Respiratory or skin sensitisation:

Inhalation: No data available.

Skin contact: From its composition, it must be considered as: Skin sensitizer

E96096 :
• In animals (guinea pig):
Weak sensitizing effects by skin contact. (Method : OECD Test Guideline 406 Guinea pig maximization test)

CMR effects :

Mutagenicity: According to its composition : Results from tests do not lead to considering the product as genotoxic

In vitro

STYRENE :
Positive results were obtained in some in vitro tests.

E96096 :
Inactive in genotoxic in vitro tests
In vitro gene mutation study in bacteria: (Method: OECD Test Guideline 471)
Tests for chromosome aberrations in vitro on mammalian cells: (Method: OECD Test Guideline 473)
In vitro gene mutations test on mammalian cells: (Method: OECD Test Guideline 476)

ETHANOL :
Overall inactive 'in vitro' tests

In vivo

STYRENE :
In vivo micronucleus test: Inactive
Chromosome aberration test in vivo: Inactive

Carcinogenicity: Based on the available information, it is not possible to conclude on the hazard potential of this mixture.

STYRENE :
• In animals :
According to limited available data, Absence of carcinogenic effects (rat and mouse, By inhalation)
Tumour inducing effects on the lungs observed by inhalation in mice are considered as unsuitable for extrapolation to man

E96096 :
No data available.

ETHANOL :
No particular problems for man (By inhalation)

Reproductive toxicity:

Fertility: **Based on the available information, it is not possible to conclude on the hazard potential of this mixture.**

STYRENE :
• In animals : Absence of toxic effects on fertility

Two generation reproduction study
(rat, By inhalation)
NOAEL (Parental toxicity): 150 ppm
NOAEL (Fertility): >= 500 ppm

E96096 :
No data available.

ETHANOL :
• In animals : Two generation reproduction study: Absence of toxic effects on fertility
NOAEL (Parental toxicity): 20.700 mg/kg bw/day
NOAEL (Fertility): 20.700 mg/kg bw/day
NOAEL (Developmental Toxicity): 20700 mg/kg bw/day
(Method: OECD Test Guideline 416, mouse, drinking water)

Foetal development: **Based on the available information, it is not possible to conclude on the hazard potential of this mixture.**

STYRENE :
• In animals : Toxic effects for foetal development at toxic maternal doses, delays in development, No teratogenic effects
No observed adverse effect concentration (Developmental Toxicity) : = 150 ppm
No observed adverse effect concentration (Maternal Toxicity) : = 150 ppm
Two-generation study
(rat, By inhalation)

E96096 :
No data available.

ETHANOL :
• In animals : Exposure during pregnancy: Absence of toxic effects for foetal development.
NOAEL (Developmental Toxicity): 37,6 mg/l
NOAEL (Maternal Toxicity): 30,1 mg/l
(Method: OECD Test Guideline 414, rat, By inhalation)

Specific target organ toxicity :

Single exposure :

Inhalation:

Inhalation of vapours/mists : Possible irritation of respiratory system

STYRENE :

• In man : At high concentrations , Risk of irritation of respiratory system

ETHANOL :

• In man : Irritating to ocular and respiratory mucous membranes. (> 9,4 mg/l)

Repeated exposure:

The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1.

Exposure routes : Inhalation

Target Organs : Auditory system , ears

STYRENE :

• In man : Repeated exposure by inhalation:

Target organs: Auditory system

hearing impairment

Target organs: Eyes

Impairment of vision

Target organs: Nervous system

• In animals : Repeated exposure by inhalation: (rat)

Target organs: Auditory system

hearing impairment

NOAEL= 300-500ppm, LOAEL= 600ppm (Subchronic exposure)

Target organs: Eyes

structural organ changes

LOAEL= 300ppm (3 months)

Target organs: Nervous system

structural organ changes

LOAEL= 320ppm (3 months)

E96096 :

• In animals : By oral route: No specific toxic effects

NOAEL= >= 1.000 mg/kg (Method: OECD Test Guideline 407, rat, 4 Weeks)

ETHANOL :

• In animals : drinking water: No specific toxic effects

NOAEL= 3.250 mg/kg (Method: OECD Test Guideline 408, rat, 13 Weeks)

Aspiration hazard:

Not applicable

12. ECOLOGICAL INFORMATION

Ecotoxicology Assessment:

All available data on this product and/or the components quoted in section 3 and/or the analogue substances/metabolites have been taken into account for the hazard assessment.

12.1. Toxicity :

Fish:

According to its composition, can be considered as Toxic to fish.

STYRENE :

LC50, 96 h (Pimephales promelas) : 10 mg/l (Method: OECD Test Guideline 203)

ETHANOL :

LC50, 96 h (Pimephales promelas) : 14.200 mg/l (Method: US EPA)

Aquatic invertebrates:

According to its composition, can be considered as Toxic to daphnia.

STYRENE :

LC50, 48 h (Daphnia magna (Water flea)) : 4,7 mg/l (Method: US EPA)

E96096 :

EC50, 48 h (Daphnia magna (Water flea)) : > 100 mg/l (Method: OECD Test Guideline 202)

ETHANOL :

EC50, 48 h (Ceriodaphnia dubia) : 5.012 mg/l

Aquatic plants:

According to its composition, can be considered as Toxic to algae.

STYRENE :

EC50, 72 h (Pseudokirchneriella subcapitata) : 4,9 mg/l (Method: US EPA)

E96096 : EC50, 72 h (Pseudokirchneriella subcapitata) : > 100 mg/l (Method: OECD Test Guideline 201, Inhibition of growth)

ETHANOL : EC50, 72 h (Chlorella vulgaris) : 275 mg/l (Method: OECD Test Guideline 201, Growth inhibition)

Aquatic toxicity / Long term toxicity:

Aquatic invertebrates:

STYRENE : NOEC, 21 d (Daphnia magna (Water flea)) : 1,01 mg/l (Method: OECD Test Guideline 211, reproduction)

ETHANOL : NOEC (Daphnia magna (Water flea)) : 9,6 mg/l (Method: No data available, reproduction)

Aquatic plants:

STYRENE : EC10, 96 h (Pseudokirchneriella subcapitata) : 0,28 mg/l (Method: US EPA, growth rate inhibition)

E96096 : NOEC, 72 h (Pseudokirchneriella subcapitata) : 9,39 mg/l (Method: OECD Test Guideline 201, Growth inhibition)

ETHANOL : EC10, 72 h (Chlorella vulgaris) : 11,5 mg/l (Method: OECD Test Guideline 201, Growth inhibition)

12.2. Persistence and degradability :

Biodegradation (In water): Based on the available information, it is not possible to conclude on the hazard potential of this mixture.

STYRENE : 100 % after 20 d

E96096 : 6 % after 28 d (Method: OECD Test Guideline 301 B)

ETHANOL : 84 % after 20 d (Method: No information available.)

12.3. Bioaccumulative potential :

Bioaccumulation: Based on the available information, it is not possible to conclude on the hazard potential of this mixture.

STYRENE : Partition coefficient: n-octanol/water: log Kow : 2,96 (Method: measured)

E96096 : Partition coefficient: n-octanol/water: log Kow : 6,21 (Method: calculated)

ETHANOL : Partition coefficient: n-octanol/water: log Kow : -0,35 , at 24 °C (Method: OECD Test Guideline 107)

STYRENE : Bioconcentration factor (BCF): 13,5 (Method: measured, Carassius auratus)

12.4. Mobility in soil - Distribution among environmental compartments:

Absorption / desorption:

Based on the available information, it is not possible to conclude on the hazard potential of this mixture.

E96096 : log Koc: 8,2 (Method: calculated)

12.5. Results of PBT and vPvB assessment :

According to REACH regulation, annex XIII, this mixture contains no substance meeting PBT and vPvB criteria.

12.6. Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment:

- Disposal of product:** The product should not be allowed to enter drains, water courses or the soil. Dispose of contents/ container to an approved waste disposal plant. In accordance with local and national regulations.
- Disposal of packaging:** Recycle if possible.

14. TRANSPORT INFORMATION

Regulation	UN number	Proper shipping name	Class	Label	PG	Environmentally hazardous	Other information
ADR	3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S.(Styrene, ETHANOL)	4.1	4.1	II	no	
RID	3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (Styrene, ETHANOL)	4.1	4.1	II	no	
IATA Cargo	3175	Solids containing flammable liquid, n.o.s. (Styrene, Ethanol)	4.1	4.1	II	no	
IATA Passenger	3175	Solids containing flammable liquid, n.o.s. (Styrene, Ethanol)	4.1	4.1	II	no	
IMDG	3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (BENZENE, ETHENYL-, ETHANOL)	4.1	4.1	II	no	EmS Number: F-A, S-I

15. REGULATORY INFORMATION

Safety data sheets: according to Regulation (EC) No. 1907/2006

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

15.2. Chemical Safety Assessment: None.

INVENTORIES:

EINECS: The product contains ELINCS substances., Conforms to

16. OTHER INFORMATION

Full text of R, H, EUH-phrases referred to under sections 2 and 3

- R10 Flammable.
- R11 Highly flammable.
- R20 Harmful by inhalation.
- R36 Irritating to eyes.
- R36/38 Irritating to eyes and skin.
- R43 May cause sensitisation by skin contact.
- R48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R53 May cause long-term adverse effects in the aquatic environment.
- R65 Harmful: may cause lung damage if swallowed.
- H225 Highly flammable liquid and vapour.
- H226 Flammable liquid and vapour.
- H228 Flammable solid.
- H304 May be fatal if swallowed and enters airways.
- H315 Causes skin irritation.
- H317 May cause an allergic skin reaction.
- H319 Causes serious eye irritation.
- H332 Harmful if inhaled.
- H372 Causes damage to organs through prolonged or repeated exposure.
- H413 May cause long lasting harmful effects to aquatic life.

Update:

Safety datasheet sections which have been updated:		Type:
1-16	General update of Safety Data Sheet.	Revisions
2	Classification and labelling	Revisions

Thesaurus:

NOAEL : No Observed Adverse Effect Level (NOAEL)
LOAEL : Lowest Observed Adverse Effect Level (LOAEL)
bw : Body weight
food : oral feed
dw : Dry weight
vPvB : very Persistent and very Bioaccumulative
PBT : Persistent, Bioaccumulative and Toxic

This information applies to the PRODUCT AS SUCH and conforming to specifications of ARKEMA. In case of formulations or mixtures, it is necessary to ascertain that a new danger will not appear. The information contained is based on our knowledge of the product, at the date of publishing and it is given quite sincerely. Users are advised of possible additional hazards when the product is used in applications for which it was not intended. This sheet shall only be used and reproduced for prevention and security purposes. The references to legislative, regulatory and codes of practice documents cannot be considered as exhaustive. It is the responsibility of the person receiving the product to refer to the totality of the official documents concerning the use, the possession and the handling of the product. It is also the responsibility of the handlers of the product to pass on to any subsequent persons who will come into contact with the product (usage, storage, cleaning of containers, other processes) the totality of the information contained within this safety data sheet and necessary for safety at work, the protection of health and the protection of environment.

NB: In this document the numerical separator of the thousands is the "." (point), the decimal separator is "," (comma).