1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

1.1. Identification of the product

Identification of the mixture: CRAYVALLAC® 60 X

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

Use of the Substance/Mixture : 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
E-mail address	pars-drp-fds@arkema.com

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):
Skin irritation, 2, H315
Eye irritation, 2, H319
Specific target organ toxicity - single exposure, 3, Respiratory system, H335
Specific target organ toxicity - repeated exposure, 2, H373
Flammable solids, 1, H228

Classification according to EU Directives 1999/45/EC :

Xn; R48/20 R20/21
Xi; R36/37/38
R10

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

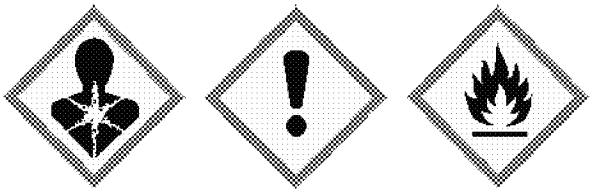
2.2. Label elements

Label elements (Regulation (EC) No 1272/2008):

Hazardous components which must be listed on the label:

Aromatic hydrocarbons, C8

Hazard pictograms:



Signal word: **Danger**

Hazard statements:
H315 : Causes skin irritation.
H319 : Causes serious eye irritation.
H335 : May cause respiratory irritation.
H373 : May cause damage to organs through prolonged or repeated exposure.
H228 : Flammable solid.

Precautionary statements:
Prevention:
P260 : Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P280 : Wear protective gloves/ eye protection/ face protection.
P210 : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
Response:
P337 + P313 : If eye irritation persists: Get medical advice/ attention.
P312 : Call a POISON CENTER or doctor/ physician if you feel unwell.
Storage:
P403 + P233 : Store in a well-ventilated place. Keep container tightly closed.

2.3. Other hazards

Potential health effects:
Inhalation: Irritating to respiratory system. Harmful: danger of serious damage to health by prolonged exposure through inhalation. At high vapour/fog concentrations : Risk of : headache Dizziness Stomach/intestinal disorders Drowsiness Nausea
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:
Flammable. Thermal decomposition giving toxic products.
Decomposition products: See chapter 10

Other:
Results of PBT and vPvB assessment : Based on the available information, it is not possible to conclude on the hasard potential of this mixture.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Chemical nature of the mixture[1]:
Wax dispersion of polyethylene.
According to suppliers, xylene solvent could have been registered under CAS numbers Xylene 1330-20-7 and Ethylbenzene 100-41-4.

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
Aromatic hydrocarbons, C8 (01-2119486136-34)	292-694-9	90989-38-1	60 - 80%	R10 Xn; R20/21 Xi; R36/37/38 Xn; R48/20 Xn; R65 Nota J: Benzene <0.1%	Flam. Liq. 3; H226 Asp. Tox. 1; H304 Acute Tox. 4 (Dermal); H312 Acute Tox. 4 (Inhalation); H332 STOT RE 2; H373 Skin Irrit. 2; H315 Eye Irrit. 2; H319 STOT SE 3; H335 Nota J: Benzene <0.1%

Contains: xylene Ethyl benzene

[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. If skin irritation occurs, seek medical advice/attention.

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
Formation of toxic products through combustion:, Carbon oxides

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. Avoid contact with the skin and the eyes. In case of insufficient ventilation, wear suitable respiratory equipment Avoid breathing dust.

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. Flammable. Irritant. Harmful. 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. Avoid contact with the skin and the eyes. When using do not eat, drink or smoke. Prohibit inhalation of dust.
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

Xylene

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
EU ELV	12 2009	TWA	50	221	Indicative value
EU ELV	12 2009	STEL	100	442	Indicative value
EU ELV	12 2009	SKIN	–	–	Can be absorbed through the skin.
ACGIH (US)	02 2012	TWA	100	–	–
ACGIH (US)	02 2012	STEL	150	–	–

Ethylbenzene

Source	Date	Value type	Value (ppm)	Value (mg/m3)	Remarks
EU ELV	12 2009	SKIN	–	–	Can be absorbed through the skin.
EU ELV	12 2009	TWA	100	442	Indicative value
EU ELV	12 2009	STEL	200	884	Indicative value
ACGIH (US)	02 2012	TWA	20	–	–

Derived No Effect Level (DNEL): AROMATIC HYDROCARBONS, C8 :

End Use	Inhalation	Ingestion	Skin contact
Workers	289 mg/m3 (ST, SE) 870 mg/m3 (ST, LE) 77 mg/m3 (LT, SE)		180 mg/kg (LT, SE)
Consumers	174 mg/m3 (ST, SE) 870 mg/m3 (ST, LE) 14,8 mg/m3 (LT, SE)	1,6 mg/kg (LT, SE)	108 mg/kg (LT, SE)

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

Predicted No Effect Concentration: AROMATIC HYDROCARBONS, C8 :

Compartment:	Value:
Fresh water	0,327 mg/l
Marine water	0,327 mg/l
Water (Intermittent release)	0,327 mg/l
Effects on waste water treatment plants	6,58 mg/l
Fresh water sediment	12,46 mg/kg dw
Marine sediment	12,46 mg/kg dw
Soil	2,31 mg/kg dw

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:	yellowish
Odour:	solvent-like
Olfactory threshold:	No data available.
pH:	not applicable
Melting point/range:	No data available.
Boiling point/boiling range:	No data available.
Flash point:	No data available.
Evaporation rate:	No data available.
Flammability (solid, gas):	
Lower flammable limit :	AROMATIC HYDROCARBONS, C8 : 1 %(V)
Upper flammable limit :	AROMATIC HYDROCARBONS, C8 : 7 %(V)
Burning rate:	20 mm/s
Vapour pressure:	No data available.
Vapour density:	No data available.
Density:	0,87 g/cm3 , at 20 °C
Water solubility:	insoluble
Partition coefficient: n-octanol/water:	AROMATIC HYDROCARBONS, C8 : log Kow : 3,1 - 3,2 , at 20 °C (calculated)
Auto-ignition temperature:	> 465 °C
Decomposition temperature:	No data available.
Viscosity:	No data available.
Explosive properties:	
Explosivity:	Not relevant
Oxidizing properties:	Not relevant

9.2. Other data:

Solubility in other solvents:	Soluble in most organic solvents

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

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.**

AROMATIC HYDROCARBONS, C8 :
• In man : At high concentrations, Risk of, headache, Drowsiness, Dizziness, Nausea, Stomach/intestinal disorders
• In animals : LC50/4 h/rat: 27,6 mg/l (Method: OECD Test Guideline 403) (vapour)

Ingestion: **According to its composition, can be considered as : Slightly harmful by ingestion**

AROMATIC HYDROCARBONS, C8 :
• In man : The effects of ingesting a large dose can include :, Nausea, Gastrointestinal disturbance, Vomiting, Central nervous system depression
• In animals : LD50/rat: 3.523 mg/kg (Method: OECD Test Guideline 401)

Dermal: **From its composition, it must be considered as: Harmful in contact with skin.**

AROMATIC HYDROCARBONS, C8 :
• In animals : LD50/rabbit: > 4.200 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: **None of the product and /or component quoted in section 3 and/or analogue substance/metabolite is classified as skin sensitizer.**

CMR effects :

Mutagenicity: **Available experimental data indicates no particular problems for man**

In vitro

AROMATIC HYDROCARBONS, C8 :
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)

Carcinogenicity: **Based on the available data, the substance is not suspected of having carcinogenic potential**

AROMATIC HYDROCARBONS, C8 :
• In animals : Absence of carcinogenic effects (Method: OECD Test Guideline 451, rat, mouse, lifetime, By oral route)

Reproductive toxicity:

Fertility: **Based on the available data, the substance is not suspected of having reprotoxic potential.**

AROMATIC HYDROCARBONS, C8 :
• In animals : Reproduction Test: Absence of toxic effects on fertility
No observed adverse effect level (Parental toxicity): 500 ppm
NOAEL (Fertility): 500 ppm
NOAEL (Developmental Toxicity): 500 ppm
(rat, By inhalation)

Foetal development: **Based on the available data, the substance is not suspected of having developmental toxicity potential.**

AROMATIC HYDROCARBONS, C8 :
• In animals : Exposure during pregnancy: Absence of toxic effects for foetal development.
No observed adverse effect level (Developmental Toxicity): 8,6 mg/l
No observed adverse effect level (Maternal Toxicity): 2,2 mg/l
(Method: OECD Test Guideline 414, rat, By inhalation)

Specific target organ toxicity :

Single exposure : **The substance or mixture is classified as specific target organ toxicant, single exposure, category 3 with respiratory tract irritation.**

Inhalation:

AROMATIC HYDROCARBONS, C8 :

At high vapour/mist concentrations , Irritating to respiratory system.

Repeated exposure: **The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 2.**

AROMATIC HYDROCARBONS, C8 :

• In animals : By oral route: No toxic effect directly extrapolated to humans
Target organs: Target organs at high concentrations:, Liver, Kidney, NOAEL= 150 mg/kg (Method: OECD Test Guideline 408, rat, 3 months)
By inhalation: No specific toxic effects
NOAEL= > 3,5 mg/l (rat, dog, 3 months)

ETHYLBENZENE :

• In animals : Target organs: Thyroid gland, Kidney, Liver, Lungs

• In animals : By inhalation: NOAEL= 4,3 mg/l (1000 ppm) (Method: OECD Test Guideline 413, rat, mouse, 13 Weeks)
By inhalation: NOAEL= 1,1 mg/l (250 ppm) (Method: OECD Test Guideline 453, rat, 2 y)
By inhalation: NOAEL= 0,3 mg/l (75 ppm) (Method: OECD Test Guideline 451, mouse, 2 y)

• In animals : By oral route: Target organs: Liver, Haematological system, NOAEL= 75mg/kg bw/day (Method: OECD Test Guideline 408, rat)

Aspiration hazard: Based on the available information, it is not possible to conclude on the hasard potential of this product.

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.**

AROMATIC HYDROCARBONS, C8 :

LC50, 96 h (Oncorhynchus mykiss) : 2,6 mg/l (Method: OECD Test Guideline 203) (Results obtained on a similar product).

Aquatic invertebrates: **According to its composition, can be considered as : Toxic to daphnia.**

AROMATIC HYDROCARBONS, C8 :

EC50, 24 h (Daphnia magna (Water flea)) : 1 mg/l (Method: OECD Test Guideline 202) (Results obtained on a similar product).

Aquatic plants: **According to its composition, can be considered as : Toxic to algae.**

AROMATIC HYDROCARBONS, C8 :

EC50, 73 h (Pseudokirchneriella subcapitata) : 4,36 mg/l (Method: OECD Test Guideline 201, Growth inhibition) (Results obtained on a similar product).

Microorganisms:

AROMATIC HYDROCARBONS, C8 :

EC50, 24 h (Nitrosomonas sp) : 96 mg/l (Results obtained on a similar product).

Aquatic toxicity / Long term toxicity:

Aquatic plants:

AROMATIC HYDROCARBONS, C8 :

EC10, 73 h (Pseudokirchneriella subcapitata) : 1,9 mg/l (Method: OECD Test Guideline 201, Growth inhibition) (Results obtained on a similar product).

12.2. Persistence and degradability :

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

AROMATIC HYDROCARBONS, C8 :

(Results obtained on a similar product). 87,8 % after 28 d (Method: OECD Test Guideline 301 F)

12.3. Bioaccumulative potential :

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

AROMATIC HYDROCARBONS, C8 :
Partition coefficient: n-octanol/water: log Kow : 3,1 - 3,2 , at 20 °C (Method: calculated)

AROMATIC HYDROCARBONS, C8 :
Bioconcentration factor (BCF): 25,9 (56 d, Oncorhynchus mykiss (rainbow trout))

12.4. Mobility in soil - Distribution among environmental compartments:

Absorption / desorption:
Based on the available information, it is not possible to conclude on the hasard potential of this mixture.

AROMATIC HYDROCARBONS, C8 :
log Koc: 2,73 (Method: OECD Test Guideline 121)

12.5. Results of PBT and vPvB assessment :

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

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.(XYLENES)	4.1	4.1	II	no	
RID	3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (XYLENES)	4.1	4.1	II	no	
IATA Cargo	3175	Solids containing flammable liquid, n.o.s. (xylenes)	4.1	4.1	II	no	
IATA Passenger	3175	Solids containing flammable liquid, n.o.s. (xylenes)	4.1	4.1	II	no	
IMDG	3175	SOLIDS CONTAINING FLAMMABLE LIQUID, N.O.S. (XYLENES)	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:

Listed in:

EU. Regulation EC No. 689/2008, concerning the export and import of dangerous chemicals: benzene
EU. REACH, Annex XVII, Marketing and Use Restrictions (Regulation 1907/2006/EC): ethylbenzene

15.2. Chemical Safety Assessment: None.

INVENTORIES:

EINECS:	Conforms to
TSCA:	Conforms to
AICS:	Conforms to
DSL:	All components of this product are on the Canadian DSL.
ENCS (JP):	Conforms to
KECI (KR):	Conforms to
PICCS (PH):	Conforms to
IECSC (CN):	Conforms to
NZIOC:	Conforms to

16. OTHER INFORMATION

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

R10, R20/21	Flammable., Harmful by inhalation and in contact with skin.
R36/37/38	Irritating to eyes, respiratory system and skin.
R48/20	Harmful: danger of serious damage to health by prolonged exposure through inhalation.
R65	Harmful: may cause lung damage if swallowed.
H226	Flammable liquid and vapour.
H228	Flammable solid.
H304	May be fatal if swallowed and enters airways.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H319	Causes serious eye irritation.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.
H373	May cause damage to organs through prolonged or repeated exposure.

Update:

Safety datasheet sections which have been updated:		Type:
2	Classification and labelling	Revisions
15	Inventories	Additions

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).