

IMPORTANT

On the 1st of July 2016, due to the implementation of a new ERP within ARKEMA, some denominations of commercial references have changed.

You may have noticed these changes on packaging. Safety Data Sheets will nevertheless be updated progressively.

In order to ensure an optimized regulatory traceability, you will find hereunder the link between old and new denominations.

| Old denomination | New denomination |
|---------------------|-------------------------|
| ORGALLOY R60 ES NAT | 2 ORGALLOY R 60 ES NAT |
| ORGALLOY R6000 NOIR | 2 ORGALLOY R 6000 BLACK |

You have then to consider the present SDS applicable as such to new denominations in line with the above table.

We would like to apologize for the inconvenience and remain at your disposal, should you need further information.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

Product: **ORGALLOY® R SERIES**

Page: 1 / 6

SDS No.: 001048-001 (Version 2.0)

Date 19.09.2012 (Cancel and replace : 27.03.2009)

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

Generic Safety Data Sheet

1.1. Identification of the product

Identification of the mixture: ORGALLOY® R SERIES

Grades : R 6000 NOIR, R 60 ES NAT

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

Use of the Substance/Mixture : Extrusion - Injection (Mouldings)

1.3. Details of the supplier of the safety data sheet

| | |
|----------------|--|
| Supplier | Arkema POLYAMIDES DE SPECIALITES 420 rue d'Estienne d'Orves 92705 Colombes Cedex, France Téléphone : +33 (0)1 49 00 80 80 Télécopie : +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
European emergency phone number : 112

2. HAZARDS IDENTIFICATION

2.1. Classification of the substance or mixture

Classification (Regulation (EC) No 1272/2008):

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

Classification according to EU Directives 1999/45/EC :

This mixture is not classified as dangerous according to Directive 1999/45/EC.

2.2. Label elements

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

No label necessary for this product.

2.3. Other hazards

Potential health effects:

Skin contact: Contact with the product, when handled at high temperatures, can cause serious burns.

Physical and chemical hazards:

Thermal decomposition giving toxic and corrosive products.

Decomposition products: See chapter 10

Other:

Results of PBT and vPvB assessment : This information is not required.

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.2. Mixtures

Chemical nature of the mixture¹:

POLYAMIDE AND POLYOLEFIN THERMOPLASTIC ALLOY

Presence of additives

Possible presence of : Carbon black

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.

4. FIRST AID MEASURES

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

Inhalation:

Inhalation of vapours due to thermal decomposition : Move to fresh air. Oxygen or artificial respiration if needed. In case of problems : Consult a physician.

Skin contact:

On contact with hot product : Cool skin rapidly with cold water after contact with molten polymer. In case of adhesion, do not try to remove the product. Treat the affected areas as thermal burns. Consult a physician.

Eye contact:

Wash well-open eyes immediately, abundantly and thoroughly with water. If irritation persists, consult an ophthalmologist. On contact with hot product : Cool eyes rapidly with cold water after contact with molten polymer. Consult an ophthalmologist immediately.

Ingestion:

In case of problems : Consult a doctor.

Protection of first-aiders:

Inhalation of vapours due to decomposition of product: 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, Foam, Carbon dioxide (CO₂)

Unsuitable extinguishing media: High volume water jet

5.2. Special hazards arising from the substance or mixture:

Thermal decomposition giving toxic and corrosive products :

Carbon monoxide, Ammonia, Amino derivatives

Temperature exceeding 500 °C :

Formation of toxic products through combustion:

Carbon oxides, Hydrogen cyanide (hydrocyanic acid), (traces)

5.3. Advice for firefighters:

Specific methods:

Ensure a system for the rapid emptying of containers. In case of fire nearby, remove the bags.

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:

Avoid contact with skin and eyes and inhalation of dust. Wear a dust mask and safety glasses/goggles if necessary.

6.2. Environmental precautions:

Do not release into the environment. Do not let product enter drains.

6.3. Methods and materials for containment and cleaning up:

Recovery:

Recover the product. Sweep up to prevent slipping hazard.

Elimination:

Destroy the product by incineration (in accordance with local and national regulations).

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 (pellets).
Provide appropriate exhaust ventilation at machinery. Provide water supplies near the point of use. Provide showers, eye-baths.

Safe handling advice:

At all stages of the operation, do not exceed the temperature at which decomposition into toxic and corrosive products will occur. Avoid accumulation of static charges during transfers in metallic systems. Avoid creating dust. In case of dust formation, wear a dust mask. Remove all sources of ignition. Keep well away from naked flames.

Hygiene measures:

Avoid contact with the skin and the eyes. Avoid breathing dust. Product handled when hot : 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:**

Store away from moisture and heat to maintain the technical properties of the product. Remove all sources of ignition. Provide earthing and safe electrical equipment.

Do not store above: 60 °C

Packaging material:

Recommended: Paper bags lined with polyethylene

7.3. **Specific end uses:** None.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1. **Control parameters:**

Exposure Limit Values Not relevant

Derived No Effect Level (DNEL):

This information is not required.

Predicted No Effect Concentration (PNEC):

This information is not required.

8.2. **Exposure controls:**

General protective measures:

Ensure ventilation of work areas and extraction of dust or vapours likely to be given off during conversion operations (product handled when hot).

Personal protective equipment:

Respiratory protection:

Product handled when hot : In case of insufficient ventilation, wear suitable respiratory equipment.
In the case of hazardous fumes, wear self contained breathing apparatus.

Hand protection:

Gloves (product handled in molten state)

Eye/face protection:

Safety glasses/goggles (product handled in molten state) - Wear face-shield and protective clothing in case of problems during processing

Skin and body protection:

Boots (product handled in molten state)

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:

granules

Colour:

natural colour, Opaque or mass coloured

Odour:

none

Olfactory threshold:

Not relevant

pH:

not applicable

approximately 215 - 255 °C

Boiling point/boiling range:

No data available.

Flash point:

not applicable

| | |
|--|--|
| Evaporation rate: | not applicable |
| Flammability (solid, gas): | No data available. |
| Vapour pressure: | No data available. |
| Vapour density: | No data available. |
| Density: | approximately 1.030 kg/m3 , at 20 °C |
| Bulk density: | 600 - 650 kg/m3 , at 20 °C |
| Water solubility: | insoluble at 20 °C |
| Partition coefficient: n-octanol/water: | No data available. |
| Autoignition temperature: | No data available. |
| Decomposition temperature: | 340 °C |
| Viscosity, dynamic: | not applicable |
| Explosive properties: | |
| Explosivity: | Not relevant (due to the chemical structure) |
| Oxidizing properties: | Not relevant (due to the chemical structure) |

9.2. Other data:

| | |
|--------------------------------------|----------------------|
| Solubility in other solvents: | insoluble , at 20 °C |
|--------------------------------------|----------------------|

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:

Temperatures above 60 °C
Heat, flames and sparks. Exposure to moisture. (to maintain the technical properties of the product).

10.5. Incompatible materials to avoid:

None known.

10.6. Hazardous decomposition products:

Thermal decomposition:
Decomposition temperature: 340 °C
Thermal decomposition giving toxic and corrosive products :
Carbon monoxide, Ammonia, Amino derivatives
Temperature exceeding 500 °C :
Formation of toxic products through combustion:
Carbon oxides, Hydrogen cyanide (hydrocyanic acid), (traces)

11. TOXICOLOGICAL INFORMATION

11.1. Information on toxicological effects:

Acute toxicity:

| | |
|-------------------|---|
| Ingestion: | Polymer Can be considered as : Slightly harmful by ingestion |
| Dermal: | Polymer Can be considered as : Slightly harmful in contact with skin |

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

| | |
|----------------------|---|
| Skin contact: | Polymer Can be considered as : Slightly or not irritating to skin Contact with the product, when handled at high temperatures, can cause serious burns., At high temperature, products of thermal decomposition can be irritating to skin |
| Eye contact: | Polymer Can be considered as : Slightly or not irritating to eyes Contact with the product, when handled at high temperatures, can cause serious burns., At high temperature, products of thermal decomposition can be irritating to eyes |

Respiratory or skin sensitization:

Inhalation: No data available.

Skin contact: According to its composition, can be considered as : Not a skin sensitizer

CMR effects :

Mutagenicity: No data available.

Carcinogenicity: No data available.

Reproductive toxicity: No data available.

Specific target organ toxicity :

Single exposure :

Inhalation: At high temperature, products of thermal decomposition can be irritating to respiratory system

Repeated exposure: No data available.

Aspiration hazard: Not relevant

12. ECOLOGICAL INFORMATION

12.1. Toxicity

Aquatic invertebrates: No data available.

12.2. Persistence and degradability :

Biodegradation (In water): Inert polymer , Not biodegradable on the basis of its structure

12.3. Bioaccumulative potential : No data available.

12.4. Mobility in soil - Distribution among environmental compartments: No data available.

12.5. Results of PBT and vPvB assessment :

This information is not required.

12.6. Other adverse effects: None known.

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment:

Disposal of product: Recycle if possible. Destroy the product by incineration (in accordance with local and national regulations).

Disposal of packaging: Recycle if possible. Destroy packaging by incineration at an approved waste disposal site (in accordance with local and national regulations).

14. TRANSPORT INFORMATION

Not classified as dangerous in the meaning of transport regulations.

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:

This information is not required.

INVENTORIES:

| | |
|-------------|--|
| EINECS: | Conforms to |
| TSCA: | Conforms to |
| AICS: | Does not conform |
| DSL: | All components of this product are on the Canadian DSL list. |
| ENCS (JP): | Does not conform |
| KECI (KR): | Does not conform |
| PICCS (PH): | Conforms to |
| IECSC (CN): | Does not conform |
| NZIOC: | Does not conform |

16. OTHER INFORMATION

Update:

| Safety datasheet sections which have been updated: | | Type: |
|--|------------------------------|-----------|
| 2 | Classification and labelling | Additions |
| 7 | Hygiene measures | Additions |
| 11 | Sensitisation | 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).