



**SAFETY DATA SHEET in accordance with 93/112/EC**  
**Doc.-No.: SD2704 – Re.No. 0**  
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**1. IDENTIFICATION OF THE SUBSTANCE / PREPARATION AND COMPANY:**

PRODUCT DETAILS – TRADE NAME: **K-Flex Al Clad**  
SUPPLIER DETAILS: **L'ISOLANTE K-FLEX srl**  
I- 20040 Roncello (Milan)  
Tel.: +39 039 6824 1 - Fax: +39 039 6824 560  
EMERGENCY TELEPHONE NUMBER: +39 039 6824 1

**2. COMPOSITION / INFORMATION ON INGREDIENTS:**

CHEMICAL CHARACTERIZATION: Flexible laminate of following composition:  
PETP film, natural, UV, FR: Polyester  
Additive: not specified  
-- Adhesive: Synthetic resin  
- Aluminium foil: Al  
-- Adhesive: Synthetic resin  
-Polymer  
Additives: Aromatic Bromine (6 – 7 %),  
no Diphenylether  
Diantimony Trioxide (3 – 3,5 %)

FORM: solid, flexible  
COLOUR: metallic, white  
ODOUR: Odourless  
HAZARDOUS INGREDIENTS: Diantimony Trioxide; Carc3; Xn; R40

**3. HAZARDS IDENTIFICATION:**

GENERAL INFORMATION: Low risk: Product can only form ignitable mixtures or burn if it is heated to temperatures above the flash point.  
WARMING: When warming the product, e.g. when welding, sufficient ventilation should be provided. In certain cases, extractor-fans should be installed directly on the machines.  
OVERHEATING: Incorrect processing of polyolefines and polyester can lead to the formation of low molecular decomposition products. It is therefore important to prevent overheating of the molten material (see also section 10).  
FIRE HAZARD: Toxic gases are produced during burning (see also section 10).  
SPARKING: Risk of electrostatic charging. Product can be electrostatically charged, which can lead to an ignitable electrical discharge. All production machines must be grounded correctly.  
DANGER OF SLIPPING: Films lying on the floor can cause a danger of slipping.

**4. FIRST-AID MEASURES:**

INHALATION: Inhalation of fumes: Remove patient from exposure, keep warm and at rest. Use suitable respiratory protection measures. If breathing is irregular or if it has stopped, proceed with artificial respiration. Obtain medical attention.  
EYE CONTACT: This product is an inert solid. In case particles come into the eye, remove by irrigating with eye wash solution or clean water, holding the eyelids apart. Obtain medical attention.  
SKIN CONTACT: With hot product: Cool the affected areas with plenty of cold water. Cover with a clean cloth or sterile gauze and call immediate for medical help. Do not try to remove the product from the skin or remove soiled clothing as this may cause the injured skin tissue to be torn of.  
INGESTION: First aid is normally not necessary.



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**5. FIRE-FIGHTING MEASURES:**

HAZARDOUS GASES:	Combustion or thermal decomposition will involve toxic and corrosive vapours: Carbon monoxide (CO), Bromides (no furanes, no dioxins) Smoke
EXTINGUISHING MEDIA:	Water Foam Dry powder Carbon dioxide
FIRE FIGHTING PROTECTIVE EQUIPMENT:	In the presence of combustion or carbonisation gases, any fire fighting, rescue and clearing up activities should be undertaken only with heavy-duty respiratory and eye protection equipment (see also sections 3,8 and 10).

**6. ACCIDENTAL RELEASE MEASURES:**

GENERAL INFORMATION:	No special measures required. Collect the product in suitable containers and either recycle or dispose of. Seek expert advice when disposing of collected material. Observe to the legal requirements for waste disposal (see also section 3, 8, 10). Caution when running over films on the floor. Danger of slipping!
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**7. HANDLING AND STORAGE:**

HANDLING:	Avoid contact with naked flames and hot surfaces as irritant and toxic decomposition products can be formed.
STORAGE TEMPERATURE:	Ambient temperature
TRANSPORT TEMPERATURE:	Ambient temperature
LOADING AND UNLOADING TEMPERATURE:	Ambient temperature
STORAGE AND TRANSPORT PRESSURE:	Atmospheric
RISK OF ELECTROSTATIC CHARGING:	Take measures against electrostatic charging.
NORMAL FORM OF TRANSPORTATION:	On pallets or goods wagons
SAFE STORAGE:	Storage on pallets in dry, enclosed rooms with solid foundation. Stack loose bales in containers, racks or secure using wedges. Pallets with lying bales must not be stacked. Upright bales can be stacked up to a maximum of 3 high. Stack products in cardboard boxes up to a maximum height of 5,5 m.

**8. EXPOSURE CONTROLS / PERSONAL PROTECTION:**

PERSONAL PROTECTION EQUIPMENT:	If contact with hot material is possible, wear heat proof clothes, arm-and face shields. If the ambient air concentrations exceed the above mentioned normal value in spite of the technical safety measures, further measures should be taken to extract the fumes. In other cases (where not possible), wear respiratory protection equipment.
HYGIENE MEASURES:	With sufficient ventilation on the working area and correct handling and processing no health risks are to be expected.



### 9. PHYSICAL AND CHEMICAL PROPERTIES:

GENERAL INFORMATION:	These are just recommended reference values. Please take the technical product specification into consideration.	
FORM:	solid	
COLOUR:	metallic, white	
ODOUR:	odourless	
CRYSTALLINE MELTING POINT:	660/-/248/-/165 °C	(ASTM D 4894)
FLASH POINT	340 °C	
IGNITION TEMPERATURE:	335°C	(ASTM D 1929)
LOWER EXPLOSION LIMIT:	not applicable	
VAPOUR PRESSURE:	not applicable	
DENSITY:	1,2 - 1,3 g/cm <sup>3</sup>	(at 23 °C)
SOLUBILITY IN WATER:	insoluble	
HYGROSCOPIC ?	no	
PH-VALUE:	not applicable	
VISCOSITY:	not applicable	
DENSITY OF STEAM:	not applicable (101,3 kPa/air=1)	
EVAPORATION RATE:	not applicable (n-Butylacetat = 1)	
HEAT OF EVAPORATION:	not applicable	
COEFFICIENT OF THERMAL EXPANSION OF LIQUID:	not applicable	
VAPOUR PRESSURE:	not applicable	
MOLECULAR WEIGHT:	3.000 – 50.000	

### 10. STABILITY AND REACTIVITY:

CHEMICAL STABILITY:	Stable between – 240 °C and + 100 °C
THERMAL DECOMPOSITION:	Temperatures above 300°C lead to the decomposition of the polymers.
HAZARDOUS DECOMPOSITION PRODUCTS:	Thermal decomposition products are toxic and corrosive: Hydrocarbons carbon dioxide carbon monoxide smoke
HAZARDOUS COMBUSTION PRODUCTS:	Reduced oxygen supply can cause the development of carbon monoxide and irritant smoke.
HAZARDOUS REACTIONS:	Do not bring into contact with: Fluorine, strong oxidising agents.

### 11. TOXICOLOGICAL INFORMATION:

GENERAL INFORMATION:	According to present experience, the material is physiologically compatible. According to present experience, the material is neither mutagenic, cancerogenic nor teratogenic.
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### 12. ECOLOGICAL INFORMATION:

GENERAL INFORMATION:	Product is insoluble in water and not biodegradable The material has no harmful effect on the environment
WATER HAZARD CLASS:	0 (self estimation) Oxygen required lies under the detection limit of 50 mg/l.

### 13. DISPOSAL CONSIDERATIONS:

PRODUCT:	In accordance with the necessary technical and local regulations may be dumped with household waste without harmful effects to the environment.
RECYCLING:	Recycling of the laminate is not possible.
WASTE CODE (GERMANY):	02 03 01 "gemischte Siedlungsabfälle"
NAME OF WASTE:	Composite wastes containing Polyester, Polypropylene and Aluminium.



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**14. NOTES ON TRANSPORT:**

LAND TRANSPORT:	GGVS / GGVE:	non-hazardous material
	ADR / RID:	non-hazardous material
INLAND NAVIGATION:	ADN / ADN R:	non-hazardous material
TRANSPORT BY SEA:	IMDG / UN:	non-hazardous material
AIR TRANSPORT:	ICAO-TI / IATA-DGR:	non-hazardous material
	Air mail transport:	permitted
DISPATCH BY POST:	permitted	

**15. REGULATORY INFORMATION:**

LABELLING IN ACCORDANCE WITH GEFSTOFF/VEG:	Hazard warning labelling not compulsory
WATER HAZARD CLASS (WHC):	0
OTHER REGULATIONS:	not applicable

**16. OTHER INFORMATION:**

This data sheet was prepared in accordance with the Guideline 93/112/EC.

The above information describes exclusively the safety requirements of the product and is based on our present state of knowledge. It does not represent a guarantee for the properties of the product described in terms of the legal warranty regulations. It does not apply if the product is used together with other materials. The user must determine himself if all the statements and information for his specific purpose/use is suitable and complete. The additives contained in the product such as lubricants, anti blocking agent, antioxidants or stabilisers can vary. Further Properties of the product are to be found in the respective product leaflets.