

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION

- Product name : AL Metallized polyester film
- Use of product : For film capacitor
- Manufacturer : Company name : NUINTEK CO., LTD
Address : 245-5, Wonnam-Ri, Umbong-Myeon, Asan-city
chung cheongnam- Do, korea
Tel : +82-41-541-8100 Fax : +82-41-541-4797
- Data Sheet Prepared by : Quality management Team
- Data : June 19, 2008
- Revision No. and date of final revision : 0
- Written : Quality management team manager Joung-Hun, PARK

2. COMPOSITION & INFORMATION ON INGREDIENTS

NO.	Chemical Name	Other Name	CAS NO.	Content
1	polyester		25038-59-9	> 99%
2	AL WIRE		7429-90-5	≤1%

3. HAZARD IDENTIFICATION

- Outline on emergency measures
Physical form : Film(biaxially oriented film)
No risk of danger under general procedure
- Potential effect
 - On eye : No data
 - On skin : NO data
 - Upon Inhalation : No data
 - Upon Ingestion : No data

4. FIRST AID MEASURES

■ Eye contact

Immediately apply large quantity of water or physiological salt solution to wash off any impurities for 15~20 minutes. Then take clinical measures

■ skin contact

although there is no risk of contact in skin, wash cleanly by using a soap detergent.

■ Inhalation

Although there is no risk of danger in inhalation, immediately move to a place with clean air when exposed to gas by burning and take clinical measures.

■ Ingestion

Immediately take clinical measures.

■ Particulars of special note for doctors

There is no particular notice. Doctors are to take on appropriate measures according to the symptoms displayed.

5. FIRE FIGHTING MEASURES

■ Spontaneous combustion point : No data

■ Minimum ignition limit : No data

■ Maximum ignition limit : No data

■ Classification and restriction by the Fire Services Act : No data

■ Fire extinguisher : Powder-form extinguisher, CO_2 , water and foam

■ Fire extinguishing Method and Device : No data

■ Harmful substances generated in chemical combustion CO_2 , aldehyde and ketone, which become toxic during combustion.

■ Fire extinguishers not to be used : No data

6. ACCIDENTAL RELEASE MEASURES

- Measures required for protection human body Not applicable
- Measure required for protection of environment
prevent chemicals flow into water ways and sewage system.
- Purification or removal
When leaked, wipe off or remove chemicals by using appropriate materials.

7. HANDLING & STORAGE

- Store in cool and dry area with sufficient ventilation.
Avoid inflammable sources and high temperature.

8. EXPOSURE CONTROL & PERSONAL PROTECTION

- Engineering management method
Use appropriate level of ventilation in room temperature
- Protection of respiratory system
Do not inhale gas.
Eye protection
Wear protective goggles when there is possibility of chemicals being in contact with eyes.

9. PHYSICAL & CHEMICAL PROPERTIES

- Appearance : Colorless. transparent
- Odor : Odorless

- pH-value : No data
- Solubility : Insoluble in water
- Boiling point : No data
- Melting point : 256 - 265°C
- Scope of explosion : No data
- Oxidization factor : No data
- Vapor pressure (mmHg) : No data
- Specific gravity (water=1) : 1,40 (at20°C)
- Ignition temperature : No data
- Vapor density : No data
- Degree of heat conduction : $3.4 \times 10^2 \text{ cal/cm}^2 \cdot \text{sec} \cdot ^\circ\text{C}$

10. STABILITY & REACTIVITY

- Chemical stability : Stable
- Substances and conditions to be avoided : No data
- Harmful substances generated during resolution : No data
- Possibility on generation of harmful substances in reaction : No data

11. TOXICOLOGICAL INFORMATION

- Toxic material (LD50) : NO data
- Effect of mutagenicity : No data
- Effect on next generations (reproductive toxicology) : No data
- Carcinogenic substance : No data
- Other particulars : No data

12. ENVIRONMENTAL INFORMATION

- Aquatic toxicology and toxicogenomics : No data
- Soil movement : No data
- Residual and resolution factor : No data
- Possibility of internal accumulation in living creatures : No data

13. DISPOSAL CONSIDERATIONS

- Status of restriction specified in Wastes control Act : No data
- Disposal method
To be incinerated only in the incinerator equipped with re-combustion device
- Particular if special note for disposal
Entire regulations specified by central and local governments to be observed

14. TRANSPORT INFORMATION

- Classification and restriction by hazardous good shipping and storage rules specified in ship safety Act : No data
- Particulars of special note for transportation : No data
- Classification and restriction by other rules in overseas countries
Transportation to be carried out in conformity to rules provided by local autonomous bodies and state / federal governments

15. REGULATORY INFORMATION

- Restriction by Industrial Safety Act : No data
- Restriction by hazardous chemical substance management act of other government divisions : No data

16. OTHER INFORMATION**■ Al and Zn properties of metallized polypropylene film**

Al metallized film : Al wire with over 99.99% of Al purity used

Al/Zn metallized film : Al wire with over 99.99% of Al purity used

Zn bar with over 99.90% of Zn purity used