1. Product and company identification

a. Product name: R3400
   ○ PROPYLENE-ETHYLENE COPOLYMER

b. Recommended use of the chemical and restrictions on use:
   ○ Food Packaging Film, Raw Material for Automotive, Electric Machine, Expandable PP, Fiber, Yarn, Band, Multi-Filament

c. Information on manufacturer/supplier/distributor:
   ○ LG Chem., LTD. Deasan Plant,
   ○ 679, Daejuk-ri, Daesan-eup, Seosan-city, Chungcheongnam-do, KOREA (356-715)
   ○ Tel: 82-41-661-2621, Fax: 82-41-661-2641
   ○ HD/PP Production Team (PP Part)

2. Hazards identification


b. Label elements including precautionary statements
   ○ Minimize source of ignition, such as static build-up, heat, spark or flame.
   ○ Material in form of dust is subject to explosions.
   ○ Store in a dry place. Store away from direct sunlight.

b. Other hazards which do not result in classification (e.g. dust explosion hazard)
   ○ NFPA: Health -1, Flammability -1, Reactivity -0

3. Composition/Information on ingredients

a. Chemical Name: PROPYLENE-ETHYLENE COPOLYMER
b. Other name: Propylene Ethylene Polymer (PP Block Copolymer, PP Random Copolymer)
c. CAS No.: 9010-79-1
d. Content (%): > 99.0

4. First aid measures

a. Eye contact
   ○ In the case of contact with eyes, rinse immediately with plenty of water for 15 minutes.
   ○ Process vapors may irritate eyes.
   ○ Seek medical advice.

b. Skin contact
   ○ Remove contaminated clothes, rinse skin with plenty of water or shower.
   ○ Exposure to molten resin may cause thermal burns.
   ○ Seek medical advice.

c. Inhalation
○ Remove from exposure to fresh air immediately.
○ Make him blow his nose and gargle.
○ Refer to medical attention immediately.
○ If not breathing, give artificial respiration.
○ If breathing is difficult, give oxygen. Get medical aid.

d. Ingestion
○ Rinse mouth. In case of large amount, drink large quantity of water and refer to medical attention.
○ Never give anything by mouth to an unconscious person. Get medical aid.
○ If conscious and alert, rinse mouth and drink 2-4 cupfuls of milk or water

e. Most important acute and delay symptoms / effects: Not available.

f. First aid and note for physicians:
○ No specific antidote.
○ Treatment of exposure should be directed at the control of symptoms.

5. Fire-Fighting measures

a. Suitable (and unsuitable) extinguishing media
○ Suitable extinguishing media; Use an extinguishing agent suitable for the surrounding fire.
○ Unsuitable extinguishing media: Not available.

b. Specific hazards arising from the chemical (e.g. hazardous combustion products)
○ During a fire, irritating and highly toxic gases may be generated by thermal decomposition
  or combustion: carbon dioxide, carbon monoxide, ketones, acrolein, aldehydes, unidentified
  organic compounds.
○ Dense smoke is emitted when burned without sufficient oxygen

c. Special protective equipment and precautions for fire-fighters
○ Special protective equipment for fire fighters
  Wear positive-pressure self-contained breathing apparatus(SCBA) and protective fire fighting
  clothing (includes fire fighting helmet, coat, trousers, boots, and gloves).
  If protective equipment is not available or not use, fight fire from a protected location or safe
  distance.

○ Fire fighting procedures
  Keep people away. Isolate fire and deny unnecessary entry.
  Soak thoroughly with water to cool and prevent re-ignition.
  Cool surroundings with water to localize fire zone.

6. Accidental release measures

a. Measures required for personal protection and protective equipment:
○ No special measures required.

b. Measures required for environment protection:
○ Avoid entering waterworks or a sewer.

c. Clean-up and removal method:
○ Sweep up then place into a suitable container for disposal.
7. Handling and storage

a. Precautions for safe handling:
   - Wash thoroughly after handling.
   - Remove contaminated clothing and wash before reuse.
   - Use with adequate ventilation.
   - Minimize dust generation and accumulation.
   - Avoid contact with eyes, skin, and clothing.
   - Avoid ingestion and inhalation

b. Conditions for safe storage (including incompatibilities):
   - Store in a cool, dry, well-ventilated area away from incompatible substances.
   - Store in a tightly closed container.

8. Exposure controls & personal protection

a. Exposure limits of the chemical substance, biological exposure limits and etc
   - None established.

b. Appropriate engineering controls:
   - Minimize source of ignition, such as static build-up, heat, spark or flame.
   - Ventilation; Good general ventilation should be sufficient for most conditions.
   - Local exhaust ventilation may be necessary for some operations.
   - Check the recommended threshold exposure limit.

c. Personal protective equipment
   - Respiratory Protection: Use an approved air-purifying respirator when vapors are generated at increased temperatures. And when dust or mist is present.
   - Eye Protection: Protective goggles with side shield or tightly fitting protective goggles,
   - Hand protection: Recommend using an approved chemical protective gloves.
   - Body protection: Put on approved chemical protective clothes.

9. PHYSICAL AND CHEMICAL PROPERTIES

a. Appearance (physical state, color, etc.); Solid (Translucent to white pellets or Powder)

b. Odor; Odorless or Slight waxy odor.

c. Odor threshold; Not available.

d. pH; Not applicable.

e. Melting point / freezing point; 130~170℃

f. Initial boiling point and boiling range; Not available.

g. Flash point; > 340℃

h. Evaporation rate; Not applicable.

i. Flammability (solid, gas); Not available.
j. Upper/lower flammable or explosive limits; Not applicable.

k. Vapor pressure; Not applicable.

l. Solubility; Insoluble in water.

m. Vapour density; Not applicable.

n. Specific gravity; 0.89 ~ 0.92 (base on water)

o. Partition coefficient; n-octanol/water; Not applicable.

p. Auto-ignition temperature; > 350°C

q. Decomposition temperature; Not applicable.

r. Viscosity; Not applicable.

s. Molecular weight; > 1,000

10. Stability and reactivity

a. Chemical stability; Stable under normal conditions.

b. Possibility of hazardous reactions; Not available.

c. Conditions to avoid (e.g. static discharge, shock, vibration, etc)
   ○ Keep away from heat, sparks and flame.
   ○ Keep away from substance of mixing prohibition. (e.g. Halogen, Oxidizer, Acid)

d. Hazardous decomposition products
   ○ At elevated temperatures the material will begin to decompose, producing fumes that can contain carbon dioxide, carbon monoxide, ketones, acrolein, aldehydes, unidentified organic compounds.

11. Toxicological information

a. Information on the likely routes of exposure
   ○ (Respiratory system); Not available.
   ○ (Oral); Not available.
   ○ (Eye, skin); Negligible hazard at ambient temperature (-18 to 38°C)
     Particulates may scratch eye surfaces/cause mechanical irritation.

b. Delay and immediate effects and chronic effects from short or long term exposure.
   ○ Acute toxicity (All routes of possible exposure shall be mentioned.)
     - Acute oral toxicity; Not available
     - Acute dermal toxicity; Not available
     - Acute inhalation toxicity; Not available
   ○ Skin corrosion/irritation; Not classifiable.
   ○ Serious eye damage/eye irritation; Not classifiable.
○ Respiratory sensitization : Not classifiable.
○ Skin sensitization : Not classifiable
○ Carcinogenicity : Not classifiable
○ Germ cell mutagenicity : Not available.
○ Reproductive toxicity : Not available.
○ Specific target organ toxicity (single exposure) : Not available.
○ Specific target organ toxicity (repeated exposure) : Not available.
○ Aspiration hazard : Not available.

c. Numerical measures of toxicity (acute toxicity estimation (ATE), etc.) : Not available.

12. Ecological information

a. Toxicity : Not available.

b. Persistence and degradability : Not available.

c. Bioaccumulative potential : Not available.

d. Mobility in soil : Not available.

e. Other adverse effects : Not available.

13. Disposal considerations

a. Disposal methods
   ○ The user of this product must properly characterize the waste/container generated from the use of this product in accordance with all applicable federal, state and/or local laws and regulations in order to determine the proper disposal of the waste in accordance with all applicable federal, state and/or local laws and regulations.

b. Precaution for disposal (including the disposal method of contaminated containers and packages)
   ○ The user of this product must dispose by oneself or entrust to waste disposer or person who other’s waste recycle and dispose, person who establish and operate waste disposal facilities.
   ○ Dispose of waste in accordance with local regulation.

14. Transport information

a. UN Number : Not available

b. UN proper shipping name : Not available.

c. Transport hazard classes : Not available.

d. Packing group, if applicable : Not available.

e. Marine pollutant (Yes/No) : Not available.

f. Information on any special precautions, which a user needs to be aware of, or needs to comply with in connection with transport : Not available.
15. Regulatory information

a. Industrial Safety and Health Law : Not applicable.

b. Toxic Chemical Control Law : Not applicable.


e. Other regulations in domestic and foreign countries
   ○ US Federal
     - CERCLA : None of the chemicals in this material
     - EPCRA Section 302 (RQ) : None of the chemicals in this material
     - EPCRA Section 304 (TPQ) : None of the chemicals in this product
     - EPCRA Section 313 : No chemicals are reportable under section 313.
   ○ European/ international regulation
     - Risk phrases : Not available
     - Safety phrases : Avoid contact with eyes.
   ○ Canada
     - CAS No. is listed on Canada’s DSL/NDSL list.

16. Other information

a. Sources of reference materials
   ○ Korea Occupational Safety & Health Agency (http://www.Kosha.net)
   ○ U Akron University (http://ull.chemistry.uakron.edu/erd)

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