

SDS (Material Safety Data Sheet)

СОРЕпhance™ 5511НS

(CAS No. 37282-12-5)

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1. Identification of the substance or mixture and of the supplier 1) Product name: COPEnhance[™] 5511HS 2) GHS product identifier: Thermoplastic Polyester Elastomer 3) Appearance : Pellet type plastic solid 4) Recommended use of the chemical and restrictions on use : • Recommended use: Automotive parts, Electric & electronic parts, Industrial parts, etc. o Restrictions on use: Used for recommended use. 2. Hazard identification 1) GHS classification of the substance/mixture: Not classified 2) GHS label elements, including precautionary statements: \circ Pictogram and symbol \circ Signal word \circ Hazard statements Not applicable Not applicable Not applicable • Precautionary statements [Precaution] Not applicable [Storage] Not applicable [Treatment] Not applicable [Disposal] Not applicable 3) Other hazard information not included in hazard classification \circ NFPA : - Health: - Flammability: 1 Reactivity: • Other : Not available 3. Composition/information on ingredients Chemical Name Common name Synonyms CAS No Content (%) COPEnhance[™] 5511HS Thermoplastic Polyester Elastomer 37282-12-5 100% 4. First-aid measures 1) Eye contact : - Keep away from exposure if exposure effect occurred. - In case of contact with substance, flush eyes with amount of water for at least 15 minutes. - In case of contact with chemicals, get medical advice/attention. 2) Skin contact: - Remove contaminated clothing and shoes. Wash skin with soap and water for at least 15 minutes. - Get medical attention if skin symptoms occurred. - Wash contaminated clothing and shoes before reuse. 3) Inhalation: - Move victim to non-contaminated place in fresh air. - Get medical attention if irritation or symptoms occurred. - Give artificial respiration if victim is not breathing. 4) Ingestion: - Get medical attention if swallowed amount of substance. - Get medical attention if irritation or symptoms occurred. 5) Indication of immediate medical attention and notes for physician: - Call emergency medical service. Get medical advice/attention if needed. - Ensure that medical personnel are aware of the material(s) involved and take

precautions to protect themselves.



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5. Fire-fighting measures

1) Suitable (and unsuitable) extinguishing media: - Suitable extinguishing media: Not available - unsuitable extinguishing media: Not available

2) Specific hazards arising from the chemical: - It emits toxic fumes when burned. - Containers may explode when heated.

3) Special protective equipment and precautions for fire-fighters: - Wear positive pressure self-contained breathing apparatus (SCBA). - Structural firefighters' protective clothing will only provide limited protection.

6. Accidental release measures

1) Personal precautions, protective equipment and emergency procedures: - Stop leak if you can do it without risk. - Isolate exposed area. - Keep unauthorized personnel away. - Use certificated protective equipment. - Ventilate the leaked area.

2) Environmental precautions and protective procedures: - Ensure adequate ventilation. - Prevent entry into waterways, sewers or basements.

3) The methods of purification and removal: - Do not touch or walk through spilled material. - Prevent entry into waterways, sewers, basements or confined areas.

7. Handling and storage

1) Precautions for safe handling: - Wash thoroughly after handling.

2) Conditions for safe storage (include conditions to avoid): - Store in a closed container. - Keep away from waterways and sewers.

8. Exposure controls/personal protection

1) Occupational Exposure Limits:

Korean Occupation of Safety and Health Regulation

International regulations

Biological exposure index

COPEnhanceTM 5511HS Not available Not available Not available

2) Appropriate engineering controls: - Provide local exhaust ventilation system or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value. - Check legal suitability of exposure level.

3) Personal protective equipment: \circ Respiratory protection : Respiratory protection: Wear NIOSH or European Standard EN 149 approved full or half face piece (with goggles) respiratory protective equipment when necessary.

 \circ Eye protection: - An eye wash unit and safety shower station should be available nearby work place. - Wear safety glasses to protect eyes from scattering toxic substance.

 \circ Hand protection: Wear chemical resistant gloves to avoid direct contact with chemical substance.

• Body protection: Wear appropriate protective chemical resistant clothing to prevent exposure of skin.

9. Physical and chemical properties

Properties COPEnhance[™] 5511HS

1) Appearance Yellow solid

2) Odor Odorless



- 3) Odor threshold Not available
- 4) pH Not available
- 5) Melting point/freezing point Not available
- 6) Initial boiling point and boiling range 140-230 °C
- 7) Flash point 300-340 °C
- 8) Evaporation rate Not available
- 9) Flammability Not available
- 10) Upper/lower flammability or explosive limits Not available
- 11) Vapor pressure Not available
- 12) Solubility (ies) 1.565 mg/L at 25°C
- 13) Vapor density Not available
- 14) Specific gravity 1.05-1.30
- 15) Partition coefficient: n-octanol/water 4.02
- 16) Auto ignition temperature Not available
- 17) Decomposition temperature Not available
- 18) Viscosity Not available
- 19) Molecular weight 458.458
- 10. Stability and reactivity
- 1) Chemical stability and Possibility of hazardous reactions: Stable under normal temperatures and pressures.
- 2) Conditions to avoid (e.g., static discharge, shock or vibration): Avoid heat, flames, sparks and other sources of
- ignition. Avoid contact with incompatible materials. Avoid release to the environment.
- 3) Incompatible materials: Not available
- 4) Hazardous decomposition products: Not available
- 11. Toxicological information
- 1) Information on the likely routes of exposure: Not available
- Acute toxicity
- Oral Not available
- Dermal Not available
- Inhalation Not available
- Skin Corrosion/ Irritation Not available
- Serious Eye Damage/ Irritation Not available
- Respiratory sensitizer Not available
- Skin Sensitization Not available
- Carcinogenecity Not available
- Mutagenicity Not available
- Reproductive toxicity Not available
- \circ Specific target organ toxicity (single exposure) Not available
- \circ Specific target organ toxicity (repeat exposure) Not available
- Aspiration Hazard Not available
- 12. Ecological information



1) Acute toxicity Not available

2) Persistence and degradability Not available

3) Bioaccumulative potential

-Low Bioaccumulation (BCF = 3.162(estimated)) -This substance is considered to be high persistency (Log Kow: 4.02(estimated))

4) Mobility in soil Low potency of mobility to soil.(Koc values = 68.66)

5) Other harmful effects Not available

13. Disposal considerations

1) Disposal method : - Waste must be disposed of in accordance with federal, state and local environmental control regulations.

2) Disposal precaution: - Consider the require attentions in accordance with waste treatment management regulation.

14. Transport information

1) UN Number: Not applicable 2) UN Proper shipping name: Not applicable 3) Transport Hazard class: Not applicable 4) Packing group: Not applicable 5) Marine pollutant: Not applicable 6) Special safety response for transportation or transportation measure: \circ Emergency schedule for fire: Not applicable \circ Emergency schedule for spillage: Not applicable

15. Regulatory information

1) Korea Occupational Safety and Health Regulation: Not regulated 2) Toxic Chemical Control Act: Not regulated

3) Dangerous Material Safety Management Regulation: Not regulated 4) Wastes Control Act: Not regulated

5) Other Korea and overseas regulation \circ Korea regulation: - Persistent Organic Pollutants Management Act: Not regulated \circ EU classification: - Classification: Not available - Risk phrases: Not available - Safety phrases: Not available

U.S.A management information: - OSHA regulation(29CFR1910.119): Not regulated - CERCLA 103 regulation(40CFR302.4): Not regulated - EPCRA 302 regulation(40CFR355.3): Not regulated - EPCRA 304 regulation(40CFR355.4): Not regulated - EPCRA 313 regulation(40CFR372.65): Not regulated
Other management information - Japan management information: ; Existing and New Chemical Substances (ENCS) = (7)-1079 - China management information: ; Inventory of Existing Chemical Substances (IECSC) = Present - Canada management information: ; Domestic Substances List (DSL) = Present - New Zealand management information: ; Inventory of Chemicals (NZIOC) = Present

• Substance of Rotterdam Protocol: Not applicable

• Substance of Stockholm Protocol: Not applicable

• Substance of Montreal Protocol: Not applicable

16. Other information

1) Information source and references: -

Pubchem;http://pubchem.ncbi.nlm.nih.gov/summary/summary.cgi?cid=71943 - EPISUITE

v4.0;http://www.epa.gov/opt/exposure/pubs/episuitedl.htm - LOLi;

http://csi.micromedex.com/pgLOLI.asp?cas=37282-12-5&ChemName=



1% 2C4% 2DB enzene dicarboxylic + acid% 2C + polymer + with + 1% 2C4% 2D but an ediol + 1% 2C4% 2D but and iol + 1% 2D but and iol + 1% 2D but and 2D

and+%2Ealpha%2E%2Dhydro%2D%2Eome

2) Issue date: 2010. 12. 10.

3) Revision number and date : \circ revision number: 4th \circ date of the latest revision: 2010. 12. 10.

4) Other material safety data sheet information: - The contents of this MSDS documented and the information based on current knowledge and information. Some of the information contained in the information provided by the Korea Occupational Safety & Health Agency. This SDS were made of the informational purposes for the safe handling when education or use of the production department workers. Therefore we make no guarantee for result obtained, and assume no responsibility for damages incurred by use of this product. But the material used for the purpose of the data requested is available for further information.