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1. IDENTIFICATION

A. Product name

- ☐ Product name: Hanwha Total Petrochemical Composite Material TB53

B. Recommended Use and Restriction on Use

- ☐ General Use: Injection molding raw material for synthetic resin products
- ☐ Restriction in use: Do not use other than for any purpose.

C. Manufacturer/Distributor Information

– Manufacturer Information

Company	Hanwha Total Petrochemical Co., Ltd.		
Address	103, Dokgot 2-ro, Daesan-eup, Seosan-si, Chungcheongnam-do, Korea 31900		
Phone	82-41-660-6106	FAX	82-41-660-6089



2. HAZARDS IDENTIFICATION

A. GHS Classification:


- ☐ Physical Hazards
- Not Classified
- ☐ Health Hazards
- Acute toxicity (intake: dust/mist): Classification 4
- ☐ Environmental Hazards
- Not Classified

B. GHS label elements, including precautionary statements:

- ☐ Hazard symbols:



- ☐ Signal word: Warning

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○ Hazard statement:

H332: Harmful if inhaled

○ Precautionary statements:

– Prevention:

P261: Avoid inhalation of dust, fume, gas, mist, steam, and spray.

P271: Handle only outdoors or in well ventilated areas.

– Response:

P304+P340: When inhaled, move to fresh air and in an easy breathing position.

P312: If you feel uncomfortable, consult a medical institution (doctor).

– Storage: No Data

– Disposal: No Data

C. Other hazards which do not result in classification:

– No Data

3. COMPOSITION/INFORMATION ON INGREDIENTS


Chemical name	Other name	CAS No. or Identification No	Content (%)
ETHYLENEPROPYLENE COPOLYMER	1-PROPENE, POLYMER WITH ETHENE	9010-79-1	65 – 75
TALC, NON-ASBESTOS FORM	Talc	14807-96-6	25 – 35
Additives	–	trade secret	1 – 5

※ Identification No.: KE(Korea Existing Chemicals Registration Number)

4. FIRST-AID MEASURES

A. Eye Contact:

– In case of contact with substances, rinse your eyes immediately with running water for at least 20 minutes.

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- Consult a doctor.

B. Skin Contact:

- Thoroughly clean clothes and shoes before reuse.
- Consult a doctor.
- In case of contact with substances, rinse your skin immediately with running water for at least 20 minutes.

C. Inhalation:

- Move into fresh air.
- Consult a doctor.
- If short of breathing, provide oxygen supply system.

D. Ingestion:

- Do not put anything into the mouth of an unconscious person.
- Consult a doctor.

E. Delay and immediate effects and also chronic effects from short and long term exposure: Not available

F. Notice to Physician:

- Let a medical provider recognize the substance and take appropriate protection.

5. FIRE FIGHTING MEASURE

A. Suitable (Unsuitable) extinguishing media:


- ☐ Extinguishing media: Mist, fine water spray, chemical desiccant, carbon dioxide, foam
- ☐ Unsuitable Extinguishing media: Waterjet
- ☐ Large Fire: Not available

B. Specific hazards arising from chemicals:

- ☐ Thermal decomposition products:
 - Pyrolysis or combustion cause irritative gases or carbon oxides.
- ☐ Fire and Explosion Hazards: Not available

C. Fire fighting procedures and equipments:

- For a fire on tank, step back from the tank engulfed in flames.
- Move the containers out of the fire areas, if possible to do without risk.

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- Immediately evacuate, in case of noise from pressure relief units or discoloration of the tank.
- Direct contact may cause burning on the skin and eyes.
- For a fire on tank, cool down the containers with cool water after being extinguished.

6. ACCIDENTAL RELEASE MEASURES

A. Personal Precautions, Protective Equipment and Emergency procedures:


- Remove all flammable sources
- Prevent producing dust.
- If it is not dangerous, stop leaking.
- Ventilate properly.
- DO NOT touch the effluents or walk around the area.

B. Environmental Precautions:

- ☐ Spill in air: Not available
- ☐ Spill in soil: Not available
- ☐ Spill in water: Not available
- ☐ Sewage water leak, water will be prevented from entering.
- ☐ Leakage in many cases be reported to the fire department and related departments.

C. Methods and materials for containment and cleaning up:

- ☐ Small leak:
 - Put in proper containers for waste.
 - Wipe out
- ☐ Large leak:
 - Powder emission: To minimize the spread, cover it with plastic sheets or water-proof cloths and keep it away from water.

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7. HANDLING AND STORAGE

A. Handling:

- Refer Engineering Maintenance and Personal Protective Gears at work.
- Wash thoroughly after use.
- Take caution of substances and conditions that should be avoided.
- Take caution against high temperature.

B. Storage Precautionary Statements:

- Store in cool and dry places.
- Seal it before storage.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

A. Exposure Limits By Material:

Chemical Name	Exposure limit under ISHL	ACGIH	OSHA
TALC, NON-ASBESTOS FORM	TWA : 6 mg/m ³ Soup stone (Total dust) TWA : 3 mg/m ³ Soup stone (Respiratory dust) TWA : 2 mg/m ³ Talc(Not included Asbestos)	TWA 2 mg/m ³ (Respiratory, Not included Asbestos)	–


○ Biological exposure limits: Not applicable

B. Engineering Controls

- The use of local exhaust ventilation is recommended to control emissions near the source. Laboratory samples should be handled in a fumehood. Provide mechanical ventilation of confined spaces.

C. Personal Protective Equipment:

- Respiratory protection: Frequent use or heavy exposure, respiratory protection if needed. Respiratory protection is ranked in order from minimum to maximum. Consider

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warning properties before use.

※ When take shelter

- Dust, mist, fume–purifying respiratory protection
- Any air–purifying respirator with a corpuscle filter of high efficiency
- Any respiratory protection with a electromotion fan(for dust, mist, fume–purifying)

※ For Unknown Concentration or Immediately Dangerous to Life or Health

- Self–contained breathing apparatus(pressure–demand or other positive–pressure mode in combination)
- Supplied–air respirator with full facepiece

○ Eye protection: Wear primary eye protection such as splash resistant safety goggles with a secondary protection face shield. Provide an emergency eye wash station and quick drench shower in the immediate work area.


○ Hand protection: Where there is potential for hand contact, wear appropriate gloves.

○ Body protection: Where there is potential for skin contact, wear appropriate clothing.



9. PHYSICAL AND CHEMICAL PROPERTIES

- A. Appearance (physical state, color, etc.): Solid (Pellet)
- B. Smell: Not available
- C. Odor threshold: Not available
- D. pH: Not available
- E. Melting / freezing range: Not available
- F. Initial boiling point and boiling point range: Not available
- G. Flash point: Not available
- H. Evaporation Rate: Not available
- I. Flammability (solid, liquid): Not available
- J. Explosion range of prints or high / low: Not available
- K. VAPOR PRESSURE: Not available
- L. Solubility: Not available
- M. Vapor Density: Not available
- N. Specific gravity: 1.10 ~ 1.20
- O. n–octanol / water partition coefficient: Not available
- P. Autoignition temperature: Not available

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Q. Decomposition temperature: Not available

R. Viscosity: Not available

S. Molecular Weight: Not available

10. STABILITY AND REACTIVITY

A. Stability:

- It is stable when stored and handled under recommended condition and at ambient temperature and pressure.

B. Possibility of Hazardous Reaction:

- No report about harmful polymerized reactions in the room temperature and pressure.

C. Conditions to Avoid:

- Avoid contacting with heat, flame and/or other ignition sources.

D. Materials to Avoid:

- Flammable substance, Reactive substance

E. Hazardous Decomposition Products:

- Thermal decomposition product a carbon oxides

11. TOXICOLOGICAL INFORMATION

A. Information on the likely routes of exposure:


- ☐ (Respiratory system): Not available
- ☐ (Oral): Other Category
- ☐ (Eyes · Skin): Other Category

B. Delayed and immediate effects and also chronic effects from short and long term exposure


☐ Acute Toxicity:

- Oral:

[TALC, NON-ASBESTOS FORM]: LD50 > 5000 mg/kg white rat (ECHA)

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- Skin:
 - [TALC, NON-ASBESTOS FORM]: LD50 >2000 mg/kg Rat (ECHA)
- Respiratory
 - [TALC, NON-ASBESTOS FORM]: LC50 >2.1 mg/L Rat (ECHA)
- Skin corrosiveness or irritation:
 - [TALC, NON-ASBESTOS FORM]: 300µg/3day(human): Mild irritation
- Severe eye damage or irritation:
 - [TALC, NON-ASBESTOS FORM]: Rabbit: Not irritation
- Respiratory sensitization: Not available
- Skin sensitization: Not available
- Carcinogenicity:
 - Industrial Safety & Health Law: Not available
 - OSHA: Not available
 - NTP: Not available
 - IARC(GROUP):
 - [TALC, NON-ASBESTOS FORM]: Group 3
 - ACGIH:
 - [TALC, NON-ASBESTOS FORM]: A4
 - EC: Not available
- Germ cell mutagenicity:
 - [TALC, NON-ASBESTOS FORM]:
 - invivo – genetic mutation test using mammalian reproductive cells:
 - negative (rat, male),
 - invitro – chromosomal aberration test using mammalian cells:
- Reproductive toxicity: No Data
- Specific target organ toxicity (single exposure):
 - [TALC, NON-ASBESTOS FORM]:
 - Oral: No clinical signs observed, percutaneous: Test items showed slight signs of skin irritation (weak scratches) after single dose application to one female (n° 14) on 3 and 4 days. The observed clinical signs only appeared on the day of application. This may be partly due to.
 - Inhalation: No clinical signs were observed during exposure.

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- ☐ Specific target organ toxicity (repeated exposures):
[TALC, NON-ASBESTOS FORM]:
–There was no chronic pathological effect associated with oral administration on rats. (ECHA)
- ☐ Aspiration hazard: Not available

12. ECOLOGICAL INFORMATION

A. Ecotoxicity:

- ☐ Acute aquatic toxicity:
– Fish:
[TALC, NON-ASBESTOS FORM]: (LC50) 89581.016 mg/L 96h (QSAR, ECHA)
- Invertebrate:
[TALC, NON-ASBESTOS FORM]: (LC50) 36812.359 mg/L 48h (QSAR, ECHA)
- Algae:
[TALC, NON-ASBESTOS FORM]: (LC50) EC50 7202.7 mg/L 96h (QSAR, ECHA)

B. Residuality and decomposition:

- ☐ Residuality:
[TALC, NON-ASBESTOS FORM]: log Kow -1.5
- ☐ Disassembly: No data


C. Bio-enriched:

- ☐ Bio-enriched:
[TALC, NON-ASBESTOS FORM]: BCF 3.162(ECHA)
- ☐ Biodegradability: No data

D. Soil mobility: no data

E. Hazardous ozone layer: Not applicable

F. Other harmful effects: no data

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13. DISPOSAL CONSIDERATIONS

A. Disposal method

- More than two kinds of wastes are a mixture if it is difficult to separate treatment by incineration or a similar process may stabilize the reducing. The possible to separate oil water separation must be disposed of Priority. Incinerate the waste in incinerator. Evaporated and the residue is treated by the method of incineration be disposed.

B. Special precautions for disposal:

- The user of this product must properly characterize the waste 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. Observe of Wastes Control Act.

14. TRANSPORT INFORMATION

A. UN No.: Not regulated as a hazardous material.

B. UN Proper Shipping Name: Not available


C. Hazard class: Not available

D. Packing group: Not available

E. Marine pollutant: Not applicable

F. Special precautions for user related to transport or transportation measures:

- ☐ EmS FIRE SCHEDULE: Not available
- ☐ EmS SPILLAGE SCHEDULE: Not available
- ☐ Air transport(IATA): Not subject to IATA regulations

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15. REGULATORY INFORMATION

A. Korea Industry Safety and Health Law (ISHL):

- ☐ Working Environment Measurement materials
: Applicable (TALC, NON-ASBESTOS FORM (Measurement : 6 month))
- ☐ Material exposure standard
: Applicable (TALC, NON-ASBESTOS FORM)
- ☐ Hazardous substances by the management target
: Not Applicable
- ☐ Special health check
: Applicable (TALC, NON-ASBESTOS FORM (Measurement : 24 month))

B. Regulations on Chemicals Management Act

- ☐ Toxic Chemical
: Not Applicable
- ☐ Permissible chemical
: Not applicable
- ☐ Limited Chemical
: Not applicable
- ☐ Prohibition Chemical
: Not applicable

C. Dangerous goods Safety Management Law in Korea


- ☐ Dangerous Goods
: Not Applicable

D. Waste Management Law in Korea

- ☐ Industrial waste
: Not Applicable

E. Other local or international regulation

- ☐ Persistent Organic Pollutants Management Law: Not Applicable
- ☐ EU classification: Not classified
 - Classification: Not Applicable
 - Risk Phrases: Not Applicable
 - Safety Phrases: Not Applicable
- ☐ US regulations

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- OSHA regulation (29 CFR1910.119): Not Applicable
- CERCLA section 103 (40 CFR302.4): Not Applicable
- EPCRA section 302 (40 CFR355.30): Not Applicable
- EPCRA section 304 (40 CFR355.40): Not Applicable
- EPCRA section 311/312 (40 CFR355.40): Not Applicable
- EPCRA section 313 (40 CFR372.65): Not Applicable
- U.S. waste disposal regulations:
 - Hazardous Waste Number: Not Applicable
 - Regulatory Standard: Not Applicable
- ☐ Rotterdam Convention material: Not Applicable
- ☐ Stockholm Convention material: Not Applicable
- ☐ Montreal Protocol on Substances: Not Applicable

16. OTHER INFORMATION

A. References:

- ☐ Hanwha Total shall be prepared in accordance with Article 110 of the Industrial Safety and Health Act of the Republic of Korea and Article 2016-19 of the Ministry of Labor's Notice (material safety and health data preparation data).
- ☐ This document is not a technical document that warrants the product itself.
- ☐ KOSHA

B. Issue date:

- ☐ 2012-12-01

C. Revision number and Last date revised:

- ☐ 3.1
- ☐ 2020-12-01

D. Other:

- ☐ This SDS is prepared according to the Globally Harmonized System (GHS).