

Safety Data Sheet(SDS)

Last revised date : 21-12-2023

1. Identification

1) Product identifier : PC/ABS_FR GC-1150HE

2) Recommended use of the chemical and restrictions on use

○ Recommended use of the chemical

Others(Synthetic Resin Plastics)

○ Restrictions on use

Use for recommended use only

Do not use it for weapons manufacturing and related purposes.

3) Details of the supplier of the safety data sheet

○ Seller

Company name : Lotte Chemical Corporation

Address : 05551 Lotte World Tower, 300, Olympic-ro, Songpa-gu, Seoul, 05551 Rep. of KOREA

Telephone number :

Basic Chemicals	+82-2-829-4114	Advanced Materials	+82-31-596-3114
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Emergency phone number

Yeosu Plant	+82-61-688-2100	Ulsan Plant	+82-52-278-3500
Daesan Plant	+82-41-689-5900	Yeosu Plant(Advanced Materials)	+82-61-689-1100

Fax number : +82-2-834-6070

2. Hazards identification

1) Hazard classification

- Not applicable

2) Allocation label elements

Hazard pictograms

- Not applicable

Signal word

- NONE

Hazard statements

- Not applicable

Precautionary statements

- Not applicable

3) Other hazards:

According to experience and information provided, this product does not affect harmful effects when using and handling it as a regulation.

3. Composition/Information on ingredients

Chemical name	Common name	CAS No.	Content(wt%)
2,2-Bis(4-hydroxyphenyl) propane polycarbonate	Poly[oxy-carbonyloxy-1,4-phenylene(1-methylethylidene)-1,4-phenylene]	24936-68-3	>=60 ~ <=70
Talc (Mg ₃ H ₂ (SiO ₃) ₄)	Talc (Mg ₃ H ₂ (SiO ₃) ₄)	14807-96-6	>=13 ~ <=17
Phosphoric trichloride reaction products with bisphenol A and phenol	Phosphoric trichloride, reaction products with bisphenol A and phenol	181028-79-5	>=10 ~ <=15
2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene	ABS Resin	9003-56-9	>=3 ~ <=10

4. First-aid measures

1) Following eye contact

- Call a physician immediately.

2) Following skin contact

- Get medical attention if irritation develops and persists.
- Remove contaminated clothing and shoes.

3) Following inhalation

- If symptoms persist, call a physician.
- Move to fresh air.

4) Following ingestion

- If accidentally swallowed obtain immediate medical attention.

5) Delayed and immediate effects and also chronic effects from short and long term exposure

No data available

6) Advice to physician

- In the case of accident or if you feel unwell, seek medical advice immediately.

5. Fire-Fighting measures

- 1) Suitable (and unsuitable) extinguishing media
 - Suitable extinguishing media
 - Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
 - Unsuitable extinguishing media
 - Do not use a solid water stream as it may scatter and spread fire.
- 2) Special hazards arising from the substance or mixture
 - Pyrolytic product
 - No data available
 - Risk of fire and explosion
 - Heating or fire can release toxic gas.
 - Other
 - May cause toxic effects if inhaled.
- 3) Special protective equipment for firefighters
 - In the event of fire, wear self-contained breathing apparatus.

6. Accident release measures

- 1) Personal precautions, protective equipment and emergency procedures
 - Avoid dust formation.
- 2) Environmental precautions
 - Try to prevent the material from entering drains or water courses.
- 3) Methods and materials for containment and cleaning up
 - Keep in suitable, closed containers for disposal.
 - Pick up and arrange disposal without creating dust.

7. Handling and storage

- 1) Precautions for safe handling
 - For personal protection see section 8.
 - Smoking, eating and drinking should be prohibited in the application area.
- 2) Conditions for safe storage (including any incompatibilities)
 - Please note that materials and conditions to be avoided.
 - Store in a dry place. Store in a closed container.

8. Exposure controls & personal protection

1) Chemical exposure limits, Biological exposure standard

Components	ACGIH regulations	Biological limit values
Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)	2 mg/m ³ TWA (particulate matter containing no asbestos and <1% crystalline silica, respirable particulate matter)	No data available

2) Appropriate engineering controls

- Ensure adequate ventilation and exhaust ventilation at the workplace.

3) Personal protective equipment

- Respiratory protection
 - If you have a direct contact or exposed to the material, wear the appropriate form of respiratory protection certified.
- Eye protection
 - If the work environment or activity involves dusty conditions, mists or aerosols, wear the appropriate goggles.
- Hand protection
 - Wear chemical safety gloves.
- Skin protection
 - Wear protective gloves/ protective clothing/ eye protection/ face protection/ hearing protection.

9. Physical and chemical information

Property name	Values	Source
Appearance		
Physical state	solid	
Color	Depends on customer needs	
Odor	odourless	
Odor threshold	No data available	
pH	No data available	
Melting point/freezing point	No data available	
Initial boiling point and boiling range(°C)	No data available	
Flash point(°C)	No data available	
Evaporation rate	No data available	
Flammability(solid, gas)	No data available	
Upper/lower flammability or explosive limits	No data available	
Vapour pressure	No data available	
Solubility(ies)	No data available	

Vapour density	No data available	
Relative density	1.2-1.4	
n-octanol/water partition coefficient	No data available	
Auto ignition temperature	No data available	
Decomposition temperature	over 400°C	
Viscosity(mm²/s, 40°C)	No data available	
Molecular weight(mass)	No data available	
Specific gravity	No data available	

10. Stability and reactivity

1) Chemical stability and Possibility of hazardous reactions

- No decomposition if stored and applied as directed.
- Stable at normal ambient temperature and pressure.

2) Conditions to avoid

- Follow precautionary advice and avoid incompatible materials and conditions

3) Incompatible materials

- Combustible material

4) Hazardous decomposition products

- This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regula

11. Toxicological information

1) Information on the likely routes of exposure

- No data available

2) Health hazard information

○ Acute toxicity

● Acute toxicity(Oral) PRODUCT : Not classified

- Talc (Mg₃H₂(SiO₃)₄)

: LD50 >5000 mg/kg Species: Rat, (Route of administration: gavage, male, OECD TG 423, GLP)

● Acute toxicity(Dermal) PRODUCT : Not classified

- Talc (Mg₃H₂(SiO₃)₄)

: LD50 >2000 mg/kg Experimental species: Rat, (female/male, OECD TG 402, GLP)

● Acute toxicity(Inhalation:Gases) PRODUCT : Not classified

- No data available
- Acute toxicity(Inhalation:Vapours) PRODUCT : Not classified
 - No data available
- Acute toxicity(Inhalation:Dust/mist) PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : $\text{LC}_{50} > 2.1 \text{ mg/l}$ 4 hr Species : Rat ((Test data for similar substances))
- Skin corrosion/irritation PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : relative tissue viability (%): 112.9, non-irritant, human, EU Method B.46
- Serious eye damage/eye irritation PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : No sensitization, Rat, in vivo, Male, No irritation, Rabbit, Corneal opacity (0), Iris (0), Conjunctival hyperemia (1.2), Conjunctival edema (0.7), OECD TG 405
- Respiratory sensitization PRODUCT : Not classified
 - No data available
- Skin sensitization PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : No sensitization, Guinea pig, female, OECD TG 406
- Carcinogenicity PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : 3 (IARC)
 - A4 (ACGHI)
 - 1A Only for talc containing asbestos (Ministry of Employment and Labor Notice)
- Germ cell mutagenicity PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : in vivo - gene mutation test using mammalian germ cells: negative (rat, male), OECD TG 478 in vitro - chromosomal aberration test using mammalian cells: negative (rat pleural mesothelial cells (RPMC), no metabolic activation system), OECD TG 473, EU Method B.10
- Reproductive toxicity PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : Daily doses of 900 mg talc/kg body weight to pregnant rabbits on days 6-18 of gestation had no effect on the fetus. There were no dose-related effects on reproductive function. NOAEL was considered 900 mg/kg bw/day in reproductive toxicity studies. Guidelines: OECD TG 416, equivalent to or similar to GLP NOAEL (developmental toxicity) = 1600 mg/kg bw/day, administration of 1600 mg/kg bw talc to corn oil did not affect reproductive and developmental indices. No effect on fetal survival, rat, GLP
- Specific target organ toxicity single exposure PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : Oral: No clinical signs observed / No specific pathological abnormalities found (rat / male / OECD TG 423 / GLP) Dermal: Test article is a single dose to one female (n ° 14) on days 3 and 4 It showed signs of slight

skin irritation (mild scratches) after application. The observed clinical signs appeared only on the day of application, which may be due in part. Stress induced by the application process. These signs include: Red nose discharge for one female (n°15) at 2, 3 and 4 hours and three males (n°21, 23, 24) at 1, 2, 3 and 4 hours. Diarrhea in one male (n°21) immediately after 30 min and 1 h. At autopsy, female number 14 showed tissue changes in the fluid-filled colon. Since this finding was seen in only one animal and was not associated with specific clinical signs, it is unlikely to be test article related (rat / male / female / OECD TG 402 / GLP) Inhalation: No clinical signs were observed during exposure. . After exposure, ptosis and congenital manifestations were observed in 2 males and 1 female only on day 1 (rat/male/female/OECD TG 403/GLP).

- Specific target organ toxicity repeated exposure PRODUCT : Not classified
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : Oral (Chronic): The NOAEL was 100 mg/kg/day after oral exposure to Talc for 101 days in rats (male/female). There were no adverse events at the general toxicity endpoint, and one of the animals treated with talc showed gastric leiomyosarcoma. However, a sarcoma unrelated to talc treatment was found in the wombs of both animals. There were no chronic pathological effects associated with oral administration to rats, Rat, OECD TG 452 Inhalation (Chronic): Via rats, respiratory dust for 6, 12 months at a concentration of 10.8 mg talc/m³, 7.5 hours per day, 5 days per week As a result of liver exposure, the two groups with treatment periods of 6 and 12 months showed a high mortality rate. 50% of animals died during treatment in both groups, and exposure to the test substance resulted in marked fibrosis. Lung adenoma was detected in 1 of 24 exposed animals, Rat, OECD TG 452
- Aspiration hazard PRODUCT : Not classified
 - No data available

12. Ecological information

1) Ecotoxicity

- Fish
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : LC50 89581.016 mg/l 96 hr Fishes species, (QSAR, exponential)
 - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene
 - : LC50 11.5 mg/l 96 hr Pimephales promelas
 - Phosphoric trichloride reaction products with bisphenol A and phenol
 - : LC50 40.287 mg/L 96 hr (ECOSAR: Phenols)
- Crustaceans
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : LC50 36812.359 mg/l 48 hr Daphnid species, (QSAR model, QSAR model, freshwater)
 - Phosphoric trichloride reaction products with bisphenol A and phenol
 - : LC50 15.340 mg/L 48 hr (ECOSAR: Phenols)
- Aquatic algae
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
 - : EC50 7202.7 mg/l 96 hr Green algae, (QSAR model, QSAR model, fresh water)
 - Phosphoric trichloride reaction products with bisphenol A and phenol

: EC50 69.098 mg/L 96 hr (ECOSAR: Phenols)

2) Persistence and degradability

- Biodegradation
 - Phosphoric trichloride reaction products with bisphenol A and phenol
: (Resistantly degradable (Biowin 1,2,5,6,7))

3) Bioaccumulative potential

- n-octanol water partition coefficient
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
: -9.4 log Kow , (log Pow, 25°C)
 - Phosphoric trichloride reaction products with bisphenol A and phenol
: 2.21 log Kow
- Bioconcentration factor(BCF)
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$)
: 3.162 BCF , (l/kg)
 - Phosphoric trichloride reaction products with bisphenol A and phenol
: 2.011

4) Mobility in soil

No data available

5) Other adverse effects

No data available

13. Disposal considerations

1) Disposal methods

- Empty containers should be taken to an approved waste handling site for recycling or disposal.

2) Precautions (including disposal of contaminated container of package)

- Dispose of in accordance with local regulations.
- Send to a licensed waste management company.

14. Transport information

1) UN No. : Not applicable

2) Proper shipping name : Not applicable

3) Hazard class : Not applicable

4) Packing group : Not applicable

5) Marine pollutant : Not applicable

6) Special precautions for user related to transport or transportation measures :

Emergency measures in case of fire : Not applicable

Emergency measures in the effluent : Not applicable

- ADR

· Tunnel restriction code : Not applicable

- IMDG

· Marine pollutant : Not applicable

- Air transport(IATA)

· UN No. : Not applicable

· Proper shipping name : Not applicable

· Class or division : Not applicable

· Packing group : Not applicable

- Maritime transport in bulk according to IMO instruments :

Not applicable

15. Regulatory information

Australia Industrial Chemicals Act

- Not applicable

China Inventory of Existing Chemical Substances (IECSC)

• Inventory - China - Inventory of Existing Chemical Substances (IECSC)

- Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) : Present [14442]

- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present [03641]

- 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present [21562]

- Phosphoric trichloride reaction products with bisphenol A and phenol : Present [29464]

92/32/EEC

- Not applicable

European Union Official Journal of the European Communities 15 June 1990 - Annex Based on Article 13 of Directive 67/548/EEC Amended by Directive 79/831/EEC

• Inventory - European Union - European Inventory of Existing Commercial Chemical Substances (EINECS)

- Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) : 238-877-9

Japan Law Concerning the Examination and Regulations of Manufacture, etc. of Chemical Substances

• Inventory - Japan - Existing and New Chemical Substances (ENCS)

- Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) : (1)-468
- 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : (6)-176
- 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : (7)-738
- Phosphoric trichloride reaction products with bisphenol A and phenol : (3)-4400

New Zealand Environmental Protection Authority, Inventory of Chemicals

- Inventory - New Zealand - Inventory of Chemicals (NZIoC)
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) : May be used as a single component chemical under an appropriate group standard
 - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : May be used as a single component chemical under an appropriate group standard
 - 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : May be used as a single component chemical under an appropriate group standard
 - Phosphoric trichloride reaction products with bisphenol A and phenol : May be used as a single component chemical under an appropriate group standard

Turkey Regulation on Inventory and Control of Chemicals

- Not applicable

Taiwan Chemical Substance Inventory

- Inventory - Taiwan - Taiwan Chemical Substance Inventory (TCSI)
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) : Present
 - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present
 - 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present
 - Phosphoric trichloride reaction products with bisphenol A and phenol : Present

U.S. Toxic Substances Control Act

- Inventory - United States - Section 8(b) Inventory (TSCA)
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) : Present (ACTIVE)
 - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present [XU] (ACTIVE)
 - Phosphoric trichloride reaction products with bisphenol A and phenol : Present [PMN] (ACTIVE)

Vietnam National Chemicals Inventory (NCI)

- Inventory - Vietnam - National Chemicals Inventory (NCI) (DRAFT)
 - Talc ($\text{Mg}_3\text{H}_2(\text{SiO}_3)_4$) : Present 13975
 - 2-Propenenitrile polymer with 1,3-butadiene and ethenylbenzene : Present 12125
 - 2,2-Bis(4-hydroxyphenyl) propane polycarbonate : Present 15829
 - Phosphoric trichloride reaction products with bisphenol A and phenol : Present 29061

16. Other information

1) Reference

NCIS, KOSHA, Montreal Protocol, ECHA, OECD SIDS, EU IUCLID, HSDB(PubChem), NITE, NTP, ACGIH, IARC, NIOSH, ChemIDplus, EPA, EPI Suite, INCHEM

2) Issue date : 21-12-2023

3) Revision date

- Revised date count : 2-1
- Last revised date : 21-12-2023

4) Other

ACGIH : American Conference of Governmental Industrial Hygienists
ADR : Agreement Concerning the International Carriage of Dangerous Goods by Road
ATE : The Acute Toxicity Estimate
ECHA : European Chemicals Agency
EPA : United States Environmental Protection Agency
EPI Suite : The Estimation Programs Interface for Windows
EU IUCLID : International Uniform Chemical Information Database
HSDB : Hazardous Substances Data Bank
IARC : International Agency for Research on Cancer
IATA : International Air Transport Association
IMDG : International Maritime Dangerous Goods Codes
INCHEM : Internationally Peer Reviewed Chemical Safety Information
M-Factor : The Multiplication Factor
NIOSH : National Institute of Occupational Safety and Health
NITE : National Institute of Technology and Evaluation(JAPAN)
NTP : National Toxicology Program
SCL : Specific Concentration Limit
OECD SIDS : Organization for Economic Co-operation and Development Screening Information Dataset