

Physical properties

■ **Grade** :SD-0150

Item	Condition	Measuring Method	Unit	Representative
Physical				
Specific Gravity	Natural Color	ASTM D792	-	1.04
Melt Flow Index	200℃ 5kg	ASTM D1238	g/10min	1.8
Mechanical				
Tensile Strength	5mm/min	ASTM D638	MPa (psi) kgf/cm ²	47 (6,800) 480
Flexural Strength	2.8mm/min	ASTM D790	MPa (psi) kgf/cm ²	69 (9,900) 700
Flexural Modulus	2.8mm/min	ASTM D790	MPa (psi) kgf/cm ²	2,160 (310,000) 22,000
IZOD Impact Strength (notched)	1/4 inch	ASTM D256	J/m (ft·lbf/in) kgf·cm/cm	216 (4) 22
Rockwell Hardness	R-Scale	ASTM D785	-	107
Thermal				
Heat Deflection Temperature	18.56kgf/cm ²	ASTM D648	°F (°C)	190 (88)
VICAT Softening Temperature	5kg	ISO R 306	°F (°C)	212 (100)
Flammability				
UL 94 Classification	1.0 mm specimen 1.5 mm specimen 3.0 mm specimen 6.0 mm specimen		ALL	HB

CHEIL INDUSTRIES 62, Pyoungyo-dong, Yeosu-si, Jeollanam- do, South Korea TEL : (061) 689-1531 FAX : (061) 689-1535	Safety Data Sheet	File NO.	MSDS-SD-0150
		Issue Date	2011.07.20
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1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1. Product name: ABS (Acrylonitrile-Butadiene-Styrene)

1.2. Relevant identified uses of the substance or mixture and uses advised against

- A. Relevant identified uses: Plastics
- B. Uses advised against: Not available

1.3. Details of the supplier of the safety data sheet

- A. Name of manufacture/supplier: CHEIL INDUSTRIES
- B. Address: 62, Pyoungyo-dong, Yeosu-si, Jeollanam-do, South Korea
- C. Telephone: +82-61-689-1531
- D. Email: chemical@samsung.com
- E. Website: www.samsungchemical.com

1.4. Emergency telephone numbers

- A. Telephone number: +82-61-689-1531

2. HAZARD IDENTIFICATION

2.1. Classification of the substance or mixture

- A. Classification(in accordance with EC No. 1272/2008): -
- B. Classification(in accordance with 1999/45/EC): Not classified

2.2. Other hazards

- This product (mixture) does not meet the PBT and/or vPvB criteria.
- NFPA rating: (0-4 steps) : Health=1, Flammability=1, Reactivity=0

3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Mixture

Information on ingredients

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Chemical name	CAS No.	EIN ECS No.	REACH No.	Concentration or concentration range (wt%)	Classification (EC No 1272/2008)	Classification (67/548/EEC)	Specific concentration limit/M-factor
Acrylonitrile- Butadiene- Styrene	9003-56-9		01-2119457861-32-0074 01-2119474195-34-0006 01-2119471988-16-0105	96.5 - 99			
Octadecyl 3-(3,5- di-t-Butyl-4- hydroxy phenyl)propionate	2082-79-3			0.05-0.5			
ETHYLENE BIS STEAROAMIDE	110-35-5			0.3-3.0			
Other Additives				0.1-2.0			
* Other ingredients which do not contribute to classification of the product							

4. FIRST AID MEASURES

4.1. Description of first aid measures

A. Ingestion:

- Material is not expected to be absorbed from the gastrointestinal tract.
- Rinse mouth with water
- Do not induce vomiting unless directed to do so by medical personnel.

B. Eye Contact:

- Immediately flush eyes with plenty of water while holding eyelids open
- Seek medical attention if irritation persists

C. Skin Contact:


- Remove contaminated clothing.

D. Inhalation:

- Rinse mouth with water and move person to fresh air.
- Assist breathing if necessary.
- Consult a physician.
- Do not induce vomiting unless directed to do so by medical personnel

4.2. Most important symptoms and effects, both acute and delayed

A. Acute effects:

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- Inhalation: May cause irritation
 - Skin: No applicable information founded
 - Eye: May cause irritation
 - Ingestion: May cause irritation
- B. Delayed effects: No relevant information found

4.3. Indication of any immediate medical attention and special treatment needed :

No relevant information found

5. FIRE FIGHTING MEASURES

5.1. Extinguishing media

Suitable extinguishing media: Dry chemical, carbon dioxide, water spray and foam

Unsuitable extinguishing media:

5.2. Special hazards arising from the substance or mixture

- Toxic carbon compounds can be produced during combustion
- Airborne dust may form flammable or explosive mixture with air

5.3. Advice for fire-fighters

- Keep people away.
- Isolate fire area and de unnecessary entry.
- Cool surroundings with water to localize fire zone.
- Soak thoroughly with water to cool and prevent re-ignition.
- Protective fire fighting clothing (including fire fighting helmet, coat, pants, boots, and gloves), positive-pressure self contained breathing apparatus (SCBA)


6. ACCIDENTAL RELEASE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures

- Isolate area.
- Keep unnecessary personnel away.
- Avoid contact with skin, eyes and dust, gas inhalation.

6.2. Environmental precautions

- Spills should be collected to prevent contamination of waterways.
- Keep out of irrigation ditches, sewers, and water supplies.

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- If large spills, advise emergency services.
- Dispose in accordance with The Waste Control Law.

6.3. Methods and material for containment and cleaning up

- Clean the ground, if dust is poured into the ground. If there is scattering, recover by local exhaust ventilation facilities.
- Keep unnecessary personnel away. Sweep up.

6.4. Reference to other sections

Refer to "Section 8 Exposure controls/personal protection" and "Section 13 Disposal consideration" as appropriate.

7. HANDLING AND STORAGE

7.1. Precautions for safe handling

- Good housekeeping and controlling dusts are necessary for safe handling of products.
- Avoid friction and keep away from possible ignition sources.
- Earth the dust containers.
- Put on appropriate personal protective equipment.
- Wash thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

- Store in cool, dry and well-ventilated place

7.3. Specific end use(s)

- Not available

8. EXPOSURE CONTROLS / PERSONAL PROTECTION


8.1. Control parameters

Occupational Exposure Limits

* ACGIH = American Conference of Governmental Industrial Hygienists
 NIOSH = National Institute for Occupational Safety and Health

8.2. Exposure controls

- Appropriate engineering controls:

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A system of local and/or general exhaust is recommended to keep employee exposures above the Exposure Limits. Local exhaust ventilation is generally preferred because it can control the emissions of the contaminant at its source, preventing dispersion of it into the general work area. The use of local exhaust ventilation is recommended to control emissions near the source.

B. Individual protection measures, such as personal protective equipment:

Respiratory Protection: Use the respirator be given official approval by Korea Occupational Safety & Health Agency. Under conditions of frequent use or heavy exposure, Respiratory protection may be needed. Respiratory protection is ranked in order from minimum to maximum. Consider warning properties before use.


- ※ When take shelter (If solid)
 - 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)
- ※ When take shelter (If liquid)
 - Any chemical cartridge respirator with organic vapour cartridge(s).
 - Any chemical cartridge respirator with a full facepiece and organic vapour cartridge(s).
 - Any air-purifying respirator with a full facepiece and an organic vapour canister.
- ※ 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 faceshield. Provide an emergency eye wash station and quick drench shower in the immediate work area.
 - Hand Protection: Wear chemical resistant protected gloves.
 - Body Protection: Wear chemical resistant protected clothing.

C. Environmental Exposure Controls: Not available

8.3. DNEL, PNEC, OEL, EQS and DMEL values : Not available

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1. General information

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- A. Appearance: Pellet in natural or compounded color
- B. Odor: Minimal

9.2. Important health, safety and environmental information:

- A. pH: Not applicable
- B. Boiling point/boiling range: Not applicable
- C. Melting point: Not available
- D. Flash point: Not available
- E. Flammability(solid, gas): Not available
- F. Explosive properties: Not available
- G. Oxidizing properties: Not available
- H. Vapour pressure: Not applicable
- I. Relative density: 1.02 ~ 1.12
- J. Solubility:
 - Soluble: acetone, methyl-ethyl ketone, dichloromethane
 - Insoluble: alcohol, aliphatic compound solvents, mineral oil
- K. Water solubility: Not applicable
- L. Partition coefficient: Not applicable
- M. Viscosity: Not applicable
- N. Vapour density: Not applicable
- O. Evaporation rate: Not applicable
- P. Molecular weight: Not applicable

9.3. Other information:

10. STABILITY AND REACTIVITY

10.1. Stability


- Stable

10.2. Possibility of Hazardous Reaction

- No likely occurs

10.3. Conditions to avoid

- Avoid heat, flame, spark and other ignition sources
- Avoid contact with incompatible materials

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10.4. Materials to avoid

- Acids, flammable materials, base, halogenic carbon compounds, oxidizing materials.

10.5. Hazardous decomposition products

- Upon heating, cyanides, ammonia, acrylonitrile, styrene, carbon oxides, nitrogen.

11. TOXICOLOGICAL INFORMATION

11.1. Potential acute health effects

- Inhalation: May cause irritation
- Ingestion: May cause irritation
- Eye contact: May cause irritation
- Skin contact: Not available


11.2. Toxicity and irritation:

- Acute toxicity: LC 50 has not been determined
 - oral: No relevant information found
 - dermal: No relevant information found
 - inhalation: No relevant information found
- Skin corrosion/irritation: No relevant information found
- Eye corrosion/irritation: No relevant information found
- Respiratory sensitization: No relevant information found
- Skin Sensitization: No relevant information found
- Carcinogenicity: No relevant information found
- Mutagenicity: No relevant information found
- Reproductive toxicity: No relevant information found
- Specific target organ toxicity(single exposure): No relevant information found
- Specific target organ toxicity(repeated exposure): No relevant information found
- Aspiration hazard: No relevant information found

12. ECOLOGICAL INFORMATION

12.1. Ecotoxicity: No relevant information found

12.2. Mobility: This product has not been found to migrate through soils

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12.3. Persistence/degradability: No relevant information found

12.4. Bioaccumulative potential: No relevant information found

12.5. Results of PBT assessment: Not available

12.6. Other adverse effects: Not available

13. DISPOSAL CONSIDERATIONS

13.1. Waste treatment 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.
- The user of this product must disposal 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.

13.2. Additional information: Not available

14. TRANSPORTATION INFORMATION

14.1. UN number : Not available

14.2. UN proper shipping name : Not available

14.3. Transport hazard class(es) : Not available

14.4. Packing group : Not available

14.5. Environmental hazard : Not available


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

Not available

15. REGULATORY INFORMATION

15.1. Labelling in accordance with 1999/45/EC

Hazard Symbol and indication of Danger : Not available

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Risk phrases(s) : Not available

Safety phrase(s) : Not available

15.2. Chemical Safety Assessment:

A. U.S regulations

TSCA: on the list

TSCA 12(b) export notice: not on the list

CERCLA 103 (40 CFR 302.4): on the list

Butadiene, inhibited: 10 lbs rq

Acrylonitrile : 100 lbs rq

Styrene : 1000 lbs rq

SARA 302 (40 CFR 355.30): on the list

Acrylonitrile : 10000 lbs tpq

SARA 304 (40 CFR 355.40): on the list

Acrylonitrile : 100 lbs rq

SARA 313 (40 CFR 372.65): not on the list

SARA Hazard Category, SARA 311/312 (40 CFR 370.21):

Not to have met any hazard category

OSHA Hazard Communication Standard (29 CFR 1910.119):

This product is not a "Hazardous Chemical" as defined by the OSHA Hazard Communication Standard 29 CFR 1910.119

TSCA = Toxic Substance Control Act

CERCLA = Comprehensive Environmental Response, Compensation, and Liability Act

SARA = Superfund Amendments and Reauthorization Act

16. OTHER INFORMATION

16.1. Full text of classification(R- and H-Phrases): Not applicable

16.2. Update history:


Date of issue: 2011. 03. 30

Date of revision: -

16.3. Reference: -

16.4. Others

Although the information contained in this document is presented in good faith, base on

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