



SAFETY DATA SHEET

According to Regulation (EC) No 1907/2006 and 453/2010 (REACH)

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Revision Number: 2

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1. IDENTIFICATION OF THE SUBSTANCE AND COMPANY

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|---|---|
| Trademark: | LUBRICOMP™ |
| Product Code: | CG006 - |
| Product Description: | Polystyrene [CASRN 9003-53-6] |
| Product Type: | Commercial Product |
| Recommended use: | May be used to produce molded or extruded articles or as a component of other industrial products. |
| Company: | SABIC Innovative Plastics B.V. Plasticslaan 1 P.O. Box 117 4600 AC Bergen op Zoom The Netherlands |
| Manufacturer: | SABIC Innovative Plastics Ottergeerde 22-28 4941 VM Raamsdonksveer The Netherlands |
| Emergency Telephone Number: | 800/447-4545 Chemtrec 800-424-9300 |
| Emergency Transportation/CHEMTREC (24 HOUR): | 800 424-9300 (USA) +1 703-527-3887 (globally, outside USA) |
| E-mail: | webinquiries@sabic-ip.com |
| Website Address: | www.sabic-ip.com |

2. HAZARDS IDENTIFICATION

The additives in this product are bound in a thermoplastic resin matrix. In accordance with GHS for the classification of the product, the hazard potential may be assessed with respect to the physico-chemical form and/or bioavailability of the individual components in the thermoplastic resin.

Where GHS classifications are shown below, these are based on the individual components in the thermoplastic resin matrix. Under the typical use conditions for the resin, these hazardous components are unlikely to contribute to workplace exposure. Please read the entire safety data sheet and/or consult an EHS professional for a complete understanding.

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Not hazardous

Not classified

Classification according to EU Directives 67/548/EEC or 1999/45/EC

CLP/GHS-Labeling



GHS Labeling not required

Precautionary Statements

No GHS specific Precautionary Statements required - observe all other warnings and handling instructions in this SDS.

Other hazards which do not result in classification:

SABIC Emergency Overview

- Pellets with slight or no odor
- Spilled material may create slipping hazard
- Can burn in a fire creating dense, toxic smoke
- Molten plastic can cause severe thermal burns
- Fumes produced during melt processing may cause eye, skin, and respiratory tract irritation. Severe over-exposure may result in nausea, headache, chills, and fever. See below for additional effects.
- Secondary operations, such as grinding, sanding, or sawing can produce dust which may present an explosion or respiratory hazard.

Other Information:

OSHA, IARC and/or NTP have listed carbon, titanium dioxide, crystalline silica (quartz), respirable glass and certain heavy metals, present in some colorants and fillers, as carcinogens. If these materials are present in this product at significant quantities, they are shown in Section 2/3. These materials are essentially bound to the plastic matrix and are unlikely to contribute to workplace exposure under recommended processing conditions. Processing vapors may cause irritation to the eyes, skin, and respiratory tract. In cases of severe exposure, nausea and headache can also occur. Grease-like processing vapor condensates on ventilation ductwork, molds, and other surfaces can cause irritation and injury to skin.

Processing Issues:

Aggravated Medical Conditions:

MEDICAL RESTRICTIONS: There are no known health effects aggravated by exposure to this product. However, certain sensitive individuals and individuals with respiratory impairments may be affected by exposure to components in the processing vapors.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Product Type

Mixture

For the full text of the H-phrases, if mentioned in this section, see Section 16.

The non-hazardous components and exact percentage (concentration) of the composition have been withheld as a trade secret.

This product consists primarily of high molecular weight polymers which are not expected to be hazardous. The ingredients in this product are present within the polymer matrix and are not expected to be hazardous.



4. FIRST AID MEASURES

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| If Inhalation: | Move to fresh air in case of accidental inhalation of fumes from overheating or combustion If symptoms persist, call a physician |
| On skin contact: | Immediately cool the skin by rinsing with cold water after contact with hot material Wash off immediately with soap and plenty of water Consult a physician |
| On contact with eyes: | Immediately flush with plenty of water. After initial flushing, remove any contact lenses and continue flushing for at least 15 minutes If eye irritation persists, consult a specialist |
| On ingestion: | No hazards which require special first aid measures |
| Precautions: | Processing vapors inhalation may be irritating to the respiratory tract. If symptoms are experienced remove victim from the source of contamination or move victim to fresh air and obtain medical advice |

5. FIRE-FIGHTING MEASURES

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| Autoignition Temperature: | No information available |
| Explosive Limits upper: | Not determined |
| lower: | Not determined |
| Suitable Extinguishing Media: | Use dry chemical, CO ₂ , water spray or "alcohol" foam. Water is the best extinguishing medium. Carbon dioxide and dry chemical are not generally recommended because their lack of cooling capacity may permit re-ignition on larger resin fires (blobs, drools, etc.) |
| Unsuitable Extinguishing Media for Safety Reasons: | Do not use a solid water stream as it may scatter and spread fire |
| Hazardous Decomposition Products: | Fire will produce dense black smoke containing hazardous combustion products carbon oxides hydrocarbons fragments |
| Hazards from Combustion Products: | Fire will produce dense black smoke containing hazardous combustion products, carbon oxides, hydrocarbon fragments, hydrogen cyanide, nitrogen oxides. |
| Specific Hazards: | Take precautionary measures against static discharges During processing, dust may form explosive mixture in air Thermal decomposition can lead to release of irritating gases and vapors |

6. ACCIDENTAL RELEASE MEASURES

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| Clean up: | Sweep up and shovel into suitable containers for disposal. Do not create a powder cloud by using a brush or compressed air. |
| Personal Precautions: | See section 8. |
| Environmental Precautions: | Do not flush into surface water or sanitary sewer system. Material should not be released into the environment. |



7. HANDLING AND STORAGE

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| Handling: | Handle in accordance with good industrial hygiene and safety practices. Provide for appropriate exhaust ventilation and dust collection at machinery. Avoid dust formation. All metal parts of the mixing and processing equipment must be earthed. |
| Storage: | Store in closed container in a dry and cool area. Keep away from heat sources and sources of ignition. |

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

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| Exposure limits: | No components with information, unless noted below |
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**SABIC Recommended Exposure Limits have been established for certain chemicals.*

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| Engineering Measures to Exposure: | Handle in accordance with good industrial hygiene and safety practice. Provide for appropriate exhaust ventilation at machinery. Processing fume condensate may be a fire hazard and toxic; remove periodically from exhaust hoods, ductwork, and other surfaces using appropriate personal protection. |
| Hand Protection: | Protective gloves should be worn. |
| Eye Protection: | Safety glasses with side-shields or chemical goggles. In addition, use full-face shield when cleaning processing vapor condensates from hood, ducts, and other surfaces. |
| Respiratory Protection: | When using this product at elevated temperatures, implement engineering systems, administrative controls or a respiratory protection program (including a respirator approved for protection from organic vapors, acid, gases, and particulate matter) if processing vapors are not adequately controlled or operators experience symptoms of overexposure. If dust or powder are produced from secondary operations such as sawing or grinding, use a respirator approved for protection from dust. |
| Body Protection: | Long sleeved clothing. |
| Hygiene Measures: | When using, do not eat, drink or smoke. |



9. PHYSICAL AND CHEMICAL PROPERTIES

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| Physical State: | Solid |
| Appearance: | Pellets |
| Color: | Varies |
| Odor: | None or slight |
| Melting point/range: | This product does not exhibit a sharp melting point but softens gradually over a wide range of temperatures. |
| Autoignition Temperature: | No information available |
| Vapor Pressure: | Negligible |
| Water Solubility: | Insoluble |
| Evaporation Rate: | Negligible |
| Specific gravity: | >1; (water = 1) |
| VOC content (%): | Negligible |
| Explosive Limits | |
| upper: | Not determined |
| lower: | Not determined |

10. STABILITY AND REACTIVITY

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| Stability: | Stable under ambient conditions. Hazardous polymerization does not occur. |
| Conditions to Avoid: | To avoid thermal decomposition, avoid elevated temperatures. Heating can result in the formation of gaseous decomposition products, some of which may be hazardous. Do not exceed melt temperature recommendations in product literature. Purgings of hot material should be collected in small, flat, thin shapes and quenched with water to allow for rapid cooling. Do not allow product to remain in barrel at elevated temperatures for extended periods of time. |
| Hazardous Decomposition Products: | Process vapors under recommended processing conditions may include trace levels of hydrocarbons, styrene, acrylonitrile, acrolein, acetaldehyde, acetophenone, ethyl benzene, cumene, alpha methylstyrene, 4-vinylcyclohexene, phenols. |



11. TOXICOLOGICAL INFORMATION

LD50/oral/rat: >5000 mg/kg (estimated)

LD50/dermal/rabbit: >2000 mg/kg estimated

Subchronic Toxicity: No information available Styrene: Many repeat dose toxicity studies are available in several test animal species following both oral and inhalation exposure. In rats dosed orally, effects on liver (changes in enzyme levels and increased weight) were consistently observed at concentrations of 350 mg/kg and higher. Gastrointestinal irritation and kidney weight changes are observed at higher doses. Findings were similar for beagle dogs. The no observed effect levels (NOEL) ranged from 100 mg/kg/day to about 300 mg/kg/day, depending on the duration of exposure. A series of inhalation studies were conducted in the 1940s and 1950s. Rats, guinea pigs, rabbits, and monkeys were exposed up to 8 hours/day, 5 days/week for 6 months to 650 to 2000 ppm (3 – 9.3 mg/L) and consistent signs of significant eye and nose irritation were observed at 1300 ppm and above. Histopathological lesions at this concentration typically consisted of pulmonary lesions.

IARC: Not listed

OSHA: Not regulated

NTP: Not tested

Remarks: The toxicological data has been taken from products of similar composition



Special Studies:

Styrene: A reproduction study in rats exposed to 125 and 250 ppm in drinking water (approximately 14-21 mg/kg/day) produced no treatment-related effects on reproductive performance over 3-generations. The only treatment related findings were reduced pup survival index in the F1 and F2 offspring. There was no evidence of developmental effects and no other effects were reported. The parental NOEL was 250 ppm and the NOEL for the F1 and F2 offspring was 125 ppm. In developmental toxicity studies in rats, rabbits, and hamsters styrene was not a selective toxicant to the fetus and was toxic at only those doses that produced maternal toxicity.

In humans, styrene is associated with central nervous system depression (headache, fatigue, nausea, and dizziness) at inhalation concentrations greater than 50 ppm. Styrene has also been reported to reduce sensory nerve conduction in occupation settings after exposure to 100 ppm or more. Styrene has also been reported to produce color vision deficiencies (dyschromatopsia) at concentrations greater than 8 ppm (averaging 24 ppm). Twelve epidemiology studies have been reported for styrene and half have supported the hypothesis that styrene produces lymphatic and hematopoietic cancers (LHC). However, those that show an increase of LHC has generally been small in size (limited statistical power), have shown no dose-response relationship, and/or had multiple chemical exposures. Of the six studies that have not shown an association with styrene and LHC, these studies tended to be larger in size (higher statistical power), had an older study population, and had good exposure data. Overall, the weight of evidence suggests that there is not an association of LHC and styrene exposure in humans. In a recent inhalation cancer bioassay, Sprague Dawley derived rats (70/sex/group) were exposed whole body to styrene vapor at 0, 50, 200, 500, or 1000 ppm 6 h/day 5 days/week for 104 weeks. Males exposed to 500 and 1000 ppm and females exposed to 200 ppm and higher gained significantly less weight than the controls. There were no changes of toxicologic significance in hematology, clinical chemistry, urinalysis, or organ weights. Styrene-related non-neoplastic histopathologic changes were confined to the olfactory epithelium of the nasal mucosa. The incidence and severity were related to dose. There was no evidence that styrene exposure caused treatment related increases of any tumor type in males or females or in the number of tumor bearing rats in the exposed groups compared to controls. In 2-year carcinogenicity bioassays conducted by the National Toxicology Program, rats and mice (50/sex/group) received 0, 500, 1000, or 2000 mg/kg/day and 0, 150, or 300 mg/kg/day, respectively, via oral gavage. In male or female rats and female mice there was no significant difference in tumor incidence when compared to the control groups. In male mice there was a positive association between styrene dose and the incidence of the combination of adenomas and carcinomas of the lung. However, due to the high background incidence of this tumor type in male mice, no firm conclusion was drawn for the carcinogenicity. In a study that administered styrene (125 and 250 ppm) in the drinking water of rats for 2 years, there was no evidence of carcinogenicity. In other chronic inhalation toxicity studies, rats were exposed to styrene via inhalation at concentrations up to 300 ppm for 4-6 hours/day, 5 days/week, for 1 year or up to 1000 ppm for 2 years. There was a slightly increased, but not statistically significant, incidence of mammary tumors in the females in both studies. Because the control incidence was also high and there was no dose-response relationship the studies were considered to be negative. Graphite: Allergic dermatitis has been reported. Excessive concentration of nuisance dusts in the workroom may cause unpleasant deposits on the skin and in the ears. Some evidence suggests that simple and complicated pneumoconiosis similar to that seen in coal workers may occur with repeated exposure.

12. ECOLOGICAL INFORMATION

Ecotoxicity Effects:

Do not flush into surface water or sanitary sewer system.

Ecotoxicity - Invertebrate Data:

Ecological damages are not known or expected under normal use.



13. DISPOSAL CONSIDERATIONS

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| Waste from residues / unused products: | Where possible recycling is preferred to disposal or incineration. Dispose of in accordance with local regulations. |
| Contaminated Packaging: | Empty containers should be transported/delivered using a registered waste carrier for local recycling or waste disposal. |
| EWC waste disposal no: | 702 - waste from the manufacture, formulation, supply and use of plastics, synthetic rubber and man-made fibres. |

14. TRANSPORT INFORMATION

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| Transport Classification: | Not regulated as hazardous for shipment, unless noted below, under current transportation guidelines. |
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DOT

ADR/RID/ADN

IMDG

ICAO

IATA-DGR



15. REGULATORY INFORMATION

This substance is classified and labelled according to Annex I of Directive 67/548/EEC, as amended.

International Inventories:

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|-------------------------|---|
| TSCA (USA): | Not listed |
| DSL (Canada): | Not listed |
| EINECS/ELINCS (Europe): | Listed |
| ENCS (Japan): | Not listed |
| IECSC (China): | Listed |
| KECL (Korea): | Not listed |
| PICCS (Philippines): | Listed |
| AICS (Australia): | Not listed |
| NZIoC (New Zealand): | Listed |
| REACH Information: | For this product's REACH related information, please contact webinquiries@sabic-ip.com |

Other Inventory Information:

A "Listed" entry above means all chemical components are on the respective inventory list and/or a qualifying exemption exists for one or more components. A "Not listed" entry above indicates one or more components is restricted from import or manufacture into that country/region. Articles are exempt from registration and are therefore not listed on the national chemical inventories.

SVHC (REACH Regulation (EC) No 1907/2006 and 453/2010, as amended):

This product does not intentionally contain SVHC chemicals except as noted below. Incidental amounts of impurities, if present, would be below the threshold limit of 0.1% by weight.

California Proposition 65:

This product does not contain components known to the State of California to cause cancer and/or reproductive effects.

RoHS EU Directive 2011/65/EU:

The subject product is in compliance with EU RoHS Directive 2011/65/EU. All below chemicals are not employed in the manufacture of the product: a.Cadmium and its compounds, b.Lead and its compounds, c.Mercury and its compounds, d.Hexavalent chromium compounds, e.Polybrominated biphenyls (PBBs), f.Polybrominated diphenyl ethers (PBDEs including Deca-BDE). The trace levels of heavy metals may be present as impurities within threshold limits (<0.1% for Pb, Hg, Cr VI, and <0.01% for Cd). We are disclosing this information, to the best of our knowledge, based upon data from our raw material manufacturers.

16. OTHER INFORMATION

SABIC and brands marked with TM are trademarks of SABIC or its subsidiaries or affiliates.

Visit our public website to search, view and print Safety Data Sheets for commercial products:

<http://eur.sabic-ip.com/ordeur/pages/msds/MSDSSearch.jsp?app=sabic-ip>

SDS Scope:

Europe: Conforms to Regulation (EC) No. 1907/2006 (REACH), Annex II, as amended by Regulation (EU) No. 453/2010. This document is also applicable in other countries and regions.

Prepared by: Product Stewardship & Toxicology



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End of Safety Data Sheet