Benzene,1,1'-(1,2-ethanediylbis(oxy))bis[2,4,6-tribromo- (cas 37853-59-1) MSDS

MATERIAL SAFETY DATA SHEET

ASTALAC* ABS COMPOUND MSDS CODE B GRADES

COMPANY DETAILS

Company Name: MARPLEX AUSTRALIA PTY LTD A.B.N. 78 004 691 614
Address: 221-229 BROWNS ROAD, NOBLE PARK, VIC 3174, AUSTRALIA
Telephone Number: (03) 8710 1400
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IDENTIFICATION

Product Name: ASTALAC ABS MSDS CODE B GRADES

A number of ABS pellet materials are available from Marplex Australia under the trade names ASTALAC and ASTALOY. This data sheet covers flame retardant ASTALAC ABS grades but excludes Standard and Glass-Filled grades. The MSDS Code for each grade is printed on the label on the bottom of each bag or on the side of bulk containers.

Other Names: Acrylonitrile-butadiene-styrene polymer
Acrylonitrile-butadiene-alpha methyl styrene
-styrene polymer
ABS

Manufacturing Product Code: ASTALAC ABS - MSDS CODE B

Hazardous Substance
(Worksafe Australia Criteria): No

ADG Code Classification
UN No. None allocated
Correct Shipping Name: None allocated
Dangerous Goods Class: None allocated
Subsidiary Risk: None allocated
Packaging Group: None allocated
Hazchem Code: None allocated
Emergency Procedure Guide: None allocated

Poisons Schedule Number: None allocated
Australian Inventory of Chemical Substances: All components are listed or meet NICNAS requirements.

Use: Manufacture of thermoplastic articles by injection moulding or extrusion.

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PHYSICAL DESCRIPTION/PROPERTIES

Appearance: Pellet either cream (natural) or pigmented with very slight sweet aromatic odour.
Boiling Point: Not applicable
Melting Point: Not applicable (see "Softening Point")
Vapour Pressure: Not applicable
Specific Gravity: 1.02-1.17 @ 25 deg.C (H2O=1)
Flash Point: Not applicable
Flammability Limits: Not applicable
Solubility in Water: Insoluble

OTHER PROPERTIES

Solubility in Organic Solvents: Soluble in acetone, methyl ethyl ketone, dimethyl formamide; not soluble in alcohols.
Softening Point: 103-128 deg.C Method: ASTM 1525
Flash Ignition Temperature: 349 deg.C Method: ASTM-1929(B)
Auto Ignition Temperature: 508 deg.C Method: ASTM-1929(B)
Percent Volatiles: Less than 1

INGREDIENTS

<table>
<thead>
<tr>
<th>Substance Name</th>
<th>CAS No.</th>
<th>Proportion, % wt.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acrylonitrile-butadiene-styrene polymer</td>
<td>9003-56-9</td>
<td>90-98</td>
</tr>
<tr>
<td>Acrylonitrile-butadiene-</td>
<td></td>
<td></td>
</tr>
<tr>
<td>alpha methyl styrene-styrene polymer</td>
<td>25120-20-1</td>
<td></td>
</tr>
<tr>
<td>Antimony trioxide</td>
<td>1309-64-4</td>
<td>2-10</td>
</tr>
<tr>
<td>Octabromodiphenyl oxide</td>
<td>32536-52-0</td>
<td>15-25</td>
</tr>
<tr>
<td>Hexabromodiphenoxy ethane</td>
<td>37853-59-1</td>
<td></td>
</tr>
<tr>
<td>Additives (pigments, polymer additives metallic soaps, waxes, antioxidants)</td>
<td>Not available</td>
<td>2-10</td>
</tr>
<tr>
<td>Alpha methyl styrene</td>
<td>98-83-9</td>
<td>Less than 1</td>
</tr>
<tr>
<td>Styrene</td>
<td>100-42-5</td>
<td>Less than 1</td>
</tr>
<tr>
<td>Acrylonitrile</td>
<td>107-13-1</td>
<td>Less than 0.01</td>
</tr>
</tbody>
</table>

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HEALTH HAZARD INFORMATION

HEALTH EFFECTS

Acute-Swallowed:

Swallowing of the pellets does not present any known health hazard.
Acute-Eye:

Eye contact with the pellets does not present any extraordinary hazard except for the possibility of abrasive injury. Fines, if any, may be irritating to the eye.

Acute-Skin:

Skin contact with the pellets as received does not present any known health hazard.

Acute-Inhalation:

The pellets do not present an inhalation hazard. Inhalation of fines may cause irritation the nose and throat.

Vapours and fumes produced during melt processing of these plastics may produce effects in some individuals, especially irritation of the eyes, nose and throat and in cases of severe over-exposure, nausea and headache.

Chronic:

Several acrylonitrile-butadiene-styrene compounds similar to ASTALAC ABS COMPOUND-MSDS CODE B Grades have been tested for potential to produce allergic skin reaction in controlled skin contact studies with human volunteers. A potential for cumulative irritation was demonstrated but primary irritation and allergic reactions were not observed.

Other Health Effects Information:

The results of acute toxicity studies available on acrylonitrile-butadiene-styrene based compounds similar to ASTALAC ABS COMPOUND-MSDS CODE B Grades indicate that these materials are practically non toxic orally (rats) or after skin application (rabbits), and are non irritating to slightly irritating to the eyes and skin of rabbits.

ASTALAC ABS COMPOUND-MSDS CODE B Grades may contain low levels of other copolymers, colour additives and performance additives. Under normal conditions of use these additives are contained within the polymer matrix and occupational exposure to these materials are not anticipated.

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Fire retardant Additives:

Antimony Trioxide

ASTALAC ABS COMPOUND - MSDS Code B Grades contain antimony trioxide. Antimony trioxide has been reported to cause dermatitis, irritation to the eyes, nose and throat and pneumoconiosis (irritation resulting in inflammation of the lungs).

Hexabromodiphenoxy Ethane

ASTALAC ABS COMPOUND - MSDS Code B Grades may contain hexabromodiphenoxy ethane. this material has been reported to be irritating to the eyes, skin and upper respiratory tract.

Octabromodiphenyl Oxide

ASTALAC ABS COMPOUND - MSDS Code B Grades may contain octabromodiphenyl oxide (OBDPO). This material is reported to cause irritation to the eyes, skin and respiratory tract. Toxicity studies in animals show OBDPO to be of low toxicity by acute oral administration and slightly toxic by skin contact.

FIRST AI

Swallowed:
Not probable. No special treatment should be required.

Eye:
Flush with plenty of water for at least 15 minutes. Seek medical attention.

Skin:
Molten plastic causes severe thermal burns. Cool rapidly with water and seek medical attention. Do not pull off the skin.

In case of contact with condensed processing fumes, immediately flush the area with plenty of water. Remove contaminated clothing. Wash clothing before reuse. Get medical attention if irritation persists.

Inhaled:
If fumes are inhaled, remove person to fresh air. If breathing difficult get medical attention.

First Aid Facilities:
Provide eye baths and safety showers close to areas where there is significant potential for eye and skin contact.

ADVICE TO DOCTOR
Treat symptomatically.

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PRECAUTIONS FOR USE

EXPOSURE STANDARDS

Worksafe Australia have not established an exposure standard for this product. However, they have established the following exposure standard for "dusts not otherwise classified":

Inspirable dust 8 hr. TWA: 10 mg/m3

Component: Antimony trioxide 8 hr. TWA 0.5 mg/M3 as Sb

The product contains a trace quantity of acrylonitrile, a substance classified by Worksafe Australia as a Category 2 Carcinogen (Probable Human Carcinogen). Based on a review of acrylonitrile exposures which result solely from the processing, use and handling of ABS COMPOUNDS as finished polymers and products fabricated from such finished polymers, acrylonitrile exposures are expected to be well below the Worksafe exposure standard of 7-hour TWA 2 ppm.

Keep exposures as low as practicable below exposure standards.

ENGINEERING CONTROLS

Provide mechanical ventilation to control exposure levels below airborne exposure standards and to prevent operator discomfort. In general, ventilation should be provided at compounding and converting areas and at fabricating work stations which involve heating the plastic. Local exhaust hoods may be used over die-heads of extrusion equipment or in the vicinity of thermoforming and moulding machines, where practicable.

PERSONAL PROTECTION

Respiratory Protection:
Avoid breathing dust, processing fumes and/or vapours. Use SA approved respiratory protection equipment
in accordance with AS1715 when airborne exposure standards are exceeded or where operator discomfort is experienced.

Eye:

ASTALAC ABS COMPOUND-MSDS CODE B Grades do not cause significant eye irritation or eye toxicity requiring special protection, except as noted under "Other Precautions" section. Safety glasses with side shields are recommended to avoid eye contact.

Skin Protection:

The product presents no skin concern requiring special protection except as noted under "Other Precautions".

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Other Precautions:

The greatest potential for injury occurs when working with the molten material such as during purging of the moulding machine, extruder and the like. During this type of operation it is essential that all workers in the immediate area wear eye and skin protection (eg. full face shield and safety glasses, heat resistant gloves, overalls and safety boots) as protection from thermal burns.

Fumes or vapours emitted from the hot melted plastic during converting operations may condense on cool overhead metal surfaces or exhaust ducts. That condensate, usually in the form of a soft grease-like semi-solid, may contain substances which is irritating or toxic. Avoid contact of that material with the skin. Wear rubber or other impermeable protective gloves when cleaning contaminated areas.

Heating and processing the product above the listed temperatures should be avoided. Overheating the plastic may occur due to excessively-high cylinder heats, overworking of the melt by wrong screw configuration, or by long dwell time in the machine. Under such conditions the thermal emissions and heat-degradation products might, without proper ventilation, reach hazardous concentrations in the converting area (see "Hazardous Decomposition Products" section).

Purgings or other molten forms of ABS plastics are susceptible to rapid breakdown if allowed to pile up in thick mounds or lumps. They should be collected only as small, flat thin shapes or thin strands to allow for rapid cooling. The hot purgings should preferably be cooled quickly and thoroughly by quenching in water and removing to a well ventilated area.

FLAMMABILITY

Minimise dust generation. Take precautions against static discharges when handling the solid product.

SAFE HANDLING INFORMATION

STORAGE AND TRANSPORT

Not classified as a Dangerous Good (see "Identification" section). Store in a cool dry area.

SPILLS AND DISPOSAL

Spillages on hard surfaces present a slip hazard. Sweep or vacuum up promptly.

The pellets may cause sewer and waterway obstruction; fish may eat pellets and obstruct their digestive tracts. Prevent exit to sewer and waterways. Remove sources of ignition. Collect material into containers.
Recycle, incinerate or landfill as per local, state and federal regulations.

Certain heavy-metal salts, present as coloured pigments and based upon cadmium, chromium, copper or lead metals, may be present in some coloured grades. Those ingredients are essentially mixed into the plastic and are unlikely to contribute to pollution of soils and water.

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FIRE/EXPLOSION HAZARDS

Extinguishing Media:

Water spray, foam, carbon dioxide and dry chemical.

Special Firefighting Procedures:

The product is a combustible thermoplastic material which will melt and drip when ignited and give off combustion products which are toxic (see "Hazardous Decomposition Products" section). Firefighters and others who may be exposed to products of combustion should wear self-contained breathing apparatus. Equipment should be thoroughly decontaminated after use.

Unusual Fire and Explosion Hazards:

Dust generated during handling and/or storage may form explosive mixtures in air.

Hazardous Decomposition Products:

Decomposition products at greater than about 260 deg.C may include carbon dioxide, carbon monoxide, hydrocarbons, hydrogen cyanide, nitrogen oxides, bromine, hydrogen bromide, antimony compounds and some original monomers eg. alpha methyl styrene, styrene and acrylonitrile. The same products and dense black smoke may be produced on combustion.

Fire gives off carbon monoxide, carbon dioxide, hydrogen cyanide, nitrogen oxides, hydrogen bromide, antimony oxides and dense black smoke.

ADDITIONAL INFORMATION

WARNING STATEMENTS

HANDLE PELLETS IN ACCORDANCE WITH GOOD INDUSTRIAL HYGIENE AND SAFETY PRACTICES. THESE PRACTICES INCLUDE AVOIDING UNNECESSARY EXPOSURE AND REMOVAL OF THE MATERIAL FROM THE EYES, SKIN AND CLOTHING.

CAUTION!
PROCESSING RELEASES VAPOURS OR FUMES WHICH MAY CAUSE EYE, SKIN AND RESPIRATORY TRACT IRRITATION. MOLTEN MATERIAL CAN CAUSE THERMAL BURNS.
ASTALAC® ABS COMPOUND MSDS CODE B GRADES

CONTACT POINT

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Fax Number: (03) 9795 1700

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