

MATERIAL SAFETY DATA SHEET

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME : **XYRON™**
See **Appendix** for grades applicable to this data sheet.

GENERAL USE : For producing molded or extruded articles or as a component of other industrial products.

PRODUCT DESCRIPTION : PPE (Poly(2,6-dimethyl-1,4-phenylene ether) / HIPS (Poly(Butadiene-styrene)

CHEMICAL NAMES : Poly(2,6-dimethyl-1,4-phenylene ether) (PPE)
Poly(Butadiene-styrene) (HIPS)
Glass fibers, Non-asbestos minerals as Reinforcing Agents

MANUFACTURER :

COMPANY NAME : ASAHI KASEI CHEMICALS CORPORATION

ADDRESS : 1-105 Kanda Jinbocho, Chiyoda-ku, Tokyo 101-8101 Japan

EMERGENCY TELEPHONE NUMBER

CHEMTREC

Telephone

United States : (800) 424 - 9300 24hours Everyday

International : +1- (703) 527 - 3887 (collect) 24hours Everyday

Asahi Kasei Plastics North America, Inc.

900 E. Van Riper Rd., Fowlerville, MI 48836

Telephone : (517) 223 - 2000

ASAHI KASEI CHEMICALS CORPORATION (JAPAN)

New Business Development & Marketing Dept. "XYRON"

Telephone +81-44-271-2561, Fax. +81-44-271-2166

2. COMPOSITION/INFORMATION ON INGREDIENTS

COMPOSITION	: Poly(2,6-dimethyl-1,4-phenylene ether)	
	& Polystyrene, Poly(Butadiene-styrene)	> 50 wt%
	Aromatic phosphate ester	5 - 15 wt%
	Fillers	5 - 40 wt%
	Additives (Includes CAS. 66070-58-4)	< 20 wt%
	Total	100 wt%

CAS REGISTRY NO.	: Poly(2,6-dimethyl-1,4-phenylene ether)	25134-01-4
	Polystyrene	9003-53-6
	Poly(Butadiene-styrene)	9003-55-8
	Aromatic phosphate esters	115-86-6, 181028-79-5
	Glass fiber	65997-17-3
	Non-asbestos minerals	12001-26-2, 14807-96-6
	Hydrogenated Poly(Butadiene styrene)	66070-58-4

*The product does not contain any new chemicals, toxic chemicals and observational substances.
All of ingredients are listed on TSCA inventories.

3. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW : Solid pellets with slight or no odor. Spilled pellets may create slipping hazard. .Product may be flammable when exposed to constant flame or heat sources. When product burns, creates dense toxic vapors, gases or fumes.

Fumes produced during melt processing may cause eye, skin and respiratory tract irritation. Secondary operations, such as grinding, sanding or sawing, can produce dust which may present an explosion or respiratory hazard.

POTENTIAL HEALTH EFFECTS:

EYE : Product may cause irritation or injury due to mechanical action.

SKIN : Pellets not likely to cause skin irritation.

INGESTION : Not acutely toxic.

INHALATION : Pellet inhalation unlikely due to physical form.

CHRONIC/CARCINOGENICITY

NTP : Not tested

OSHA : Not regulated

MELT PROCESSING HEALTH EFFECTS

: Processing fumes may cause irritation to the eyes, skin and respiratory tract, and in cases of severe over-exposure, nausea and headache.

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

Note) : Additives containing certain heavy metal compounds may be present. These ingredients are encapsulated in the plastic matrix and are unlikely to contribute to workplace exposure under recommended processing conditions.

4. FIRST AID MEASURES

EYES : Remove contact lenses immediately if worn, unless they have adhered to eyes. Immediately flush the affected eyes well with a copious quantity of clean water for at least 15 minutes. Do not let the victim rub his eyes to prevent irritation and injury to corneas. Seek immediate medical attention.

SKIN : Wash skin thoroughly with soap and water. Seek medical attention if rash burn occurs.

INGESTION : Not probable. If swallowed, seek medical attention.

INHALATION : Not likely to inhale pellets due to physical form. When gases and / or fumes generated from the molten resin are inhaled, remove the victim from the area to fresh air. If his condition does not improve, seek medical attention.

MELT PROCESSING : If molten plastic contacts skin, cool rapidly with water and immediately seek medical attention.

WARNING: Do not attempt removal of plastic without medical assistance. Do not use solvent for removal.

For processing fume inhalation irritation, leave contaminated area and breathe fresh air.

If coughing, difficult breathing or any other symptoms develop, seek medical attention at once, even if symptoms develop at a later time.

For skin contacts with condensate, immediately wash thoroughly with soap and water.

If irritation develops, seek medical attention.

5. FIRE FIGHTING MEASURES

FIRE FIGHTING INSTRUCTIONS: Approved pressure demand breathing apparatus and protective clothing should be used for all fires. Water spray is the preferred extinguishing medium. This product will melt but will not be carried on the surface of water.

EXTINGUISHING MEDIA : Water spray and 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

HAZARDOUS COMBUSTION PRODUCTS

: Hazardous combustion products may include intense heat, dense black smoke, carbon monoxide, carbon dioxide, and hydrocarbon fragments.

FLAMMABLE PROPERTIES

FLASH POINT : Not applicable

FLAMMABLE LIMIT

LOWER LIMIT : Not established

UPPER LIMIT : Not established

CONDITIONS OF FLAMMABILITY: Requires a continuous flame source to ignite.

EXPLOSION DATA

IMPACT SENSITIVITY: Not sensitive to mechanical impact.

STATIC DISCHARGE : See 7. HANDLING AND STORAGE

6. ACCIDENTAL RELEASE MEASURES

: To prevent slippage and falls from pellets, sweep or gather up materials and place in proper container for disposal or recovery. Immediately collect released resin to prevent environmental contamination.

7. HANDLING AND STORAGE

HANDLING : Gases generated in the molding process may cause irritation to the skin and respiratory tract, and in cases of severe over exposure, nausea and headache. Prevent contact with skin and eyes. Use good industrial hygiene practices. Provide adequate ventilation. Secondary operations such as grinding, sanding and sawing may produce dust explosion hazards due to the electrostatic charges or electrical sparks. Maintain good house-keeping activities to prevent dust accumulation, and employ bonding, grounding, venting and explosion relief provisions in accordance with accepted engineering practices.

STORAGE : Store in a dry place away from excessive heat or sources of ignition. Avoid direct sunlight. Keep product away from electrostatic charge.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS : In cases where possibilities of dust formation, gas generation, or vapor emission exist, provide local ventilation. Ventilation requirements must be locally determined to limit exposure to materials at their point of use.

PERSONAL PROTECTION

EYE/FACE : Wear safety glasses or chemical goggles while using or handling this product.

SKIN : When handling pellets, avoid prolonged or repeated contact with skin. When melt processing product, wear long pants, long sleeves, well insulated gloves and face shield

	when applicable. Use appropriate protective clothing, including chemical resistant gloves, to prevent any contact with processing fume condensates.
RESPIRATORY	: When processing fumes are not adequately controlled, use appropriate respirator for protection from organic vapors and acid gases. When dust or powder from secondary operations, such as grinding, sanding or sawing, are not adequately controlled, use respirator approved for protection from dust.
EXPOSURE GUIDELINES	
OSHA PEL	: 15 mg/m ³ (Total dust) 5 mg/m ³ (Respirable fraction)
ACGIH TLV-TWA(2008)	: 10 mg/m ³ (Inhalable particulate) 3 mg/m ³ (Respirable particulate)

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE AND ODOR	: Plastic pellet with slight odor.
PHYSICAL STATE	: Solid
pH	: Not applicable
VAPOR PRESSURE (mmHg)	: Negligible
BOILING POINT	: Not applicable
MELTING POINT	: This product does not exhibit a sharp melting point but softens gradually over a wide range of temperatures (Heat distortion temperature (HDT) of grades differs independently. Refer to HDT data of grades of XYRON catalog.)
SOLUBILITY IN WATER	: Insoluble
SPECIFIC GRAVITY	: 1.1-1.6
EVAPORATION RATE	: Negligible
%VOLATILES	: Negligible

10. STABILITY AND REACTIVITY

CHEMICAL STABILITY	: Stable under recommended conditions of storage and handling.
CONDITIONS TO AVOID	: In order to avoid autoignition / hazardous decomposition of hot thick masses of plastic, purgings should be collected in small flat shapes or thin strands to allow for rapid cooling in water. (See 8. EXPOSURE CONTROLS / PERSONAL PROTECTION for respiratory protection advice.)
REACTIVITY	: Not reactive under recommended conditions of handling, storage, processing and use. When heated to approximately 250 (482° F) to 400 (751° F), the resin begins to decompose and emit decomposition gases. Immediately cool down the molten resins, if necessary.
HAZARDOUS DECOMPOSITION	: When ignited, carbon monoxide, carbon dioxide, small amounts of aromatic and aliphatic hydrocarbons are released.
HAZARDOUS POLYMERIZATION	: Will not occur.
FLAMMABILITY	: Flammable
STORAGE STABILITY	: Stable
OXIDIZING PROPERTY	: None
SELF-REACTIVITY	: None

11. TOXICOLOGICAL INFORMATION

EYE	: Product not considered primary eye irritant.
SKIN	: Product not considered primary skin irritant.
ACUTE ORAL	: Not available
ACUTE INHALATION	: Processing fumes from similar products are not considered toxic
CHRONIC TOXICITY	: Not available
CARCINOGENIC EFFECTS	: Not listed in IARC

12. ECOLOGICAL INFORMATION

GENERAL	: Not expected to present any significant ecological problems.
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13. DISPOSAL CONSIDERATIONS

- : Comply with all national and local regulations. Do not dispose this material into sewers, on the ground or into body of water.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (D.O.T)	: This product is not regulated by D.O.T.
CANADIAN T.D.G. INFORMATION	: This product is not regulated by T.D.G.
NOTE) Avoid water and careless handling to prevent damage to the container. Spilled pellets should be collected immediately to prevent slippage.	

15. REGULATORY INFORMATION

U.S. FEDERAL REGULATIONS	
OSHA	: This product is not hazardous as defined by the OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)
TSCA	: All ingredients are on the TSCA inventory.
CERCLA / SUPERFUND (40 CFR 117,302)	: This product contains no Reportable Quantity (RQ) Substances.
SARA HAZARD CATEGORY	: This product has been reviewed according to the EPA Hazard Categories promulgated under SECTION 311 and 312 of Title of the Superfund Amendments and Reauthorization Act of 1986 (SARA Title) and is considered, under applicable definitions, to meet the following categories: Not to have met any hazard category.
SARA 313 INFORMATION	: This product contains no substance subject to the reporting requirements of Section 313 of Title of the Superfund Amendments and Reauthorization Act of 1986 and 40 CFR Part 372.

16. OTHER INFORMATION

Refer to "XYRON Technical information" for additional guidance and information

<Notice & warning concerning the use of XYRON>

Do not use XYRON for the parts below.

- Medical vessels, packages, apparatus, parts which touch inside the human body, mucous membranes, body fluid, blood, and medicine
 - Containers, packages, and parts for food applications
 - Apparatus, parts which contact drinking water and beverages
 - Toys which may be sucked or may contact drinking water and beverages

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APPENDIX : XYRON GRADE LIST

G701V, G701Z, G702V, G703V, FT31V,
VM302, VM502, VT302, VT31V, VT31Z, VT32V, VT52Z,
X1104, X1106, X1232, X1508, X1509, X1511, X1519, 1561,
X1711, X1740, X1742, X1744, X1762, X1763, X1764, X1769, X1774, X1784,
X1916, X2210, X2215, X251V, X251Z,
X301V, X301Z, X302V, X303Z, X331V, X331Z, X332V, X332Z, X333V, X333Z,
X351V, X352V, X501V, X501Z, X502V, X502Z, X503V, X503Z,
X531V, X531Z, X532Z, X533V, X533Z, X534Z, X551V, X552V, X603V,
X8400, X8500, X8600,
L524V, L542V, L542Z, L543V, L543Z, L544V, L554V, L564V, L564Z, L565V, L574Z, L654V