





MATERIAL SAFETY DATA SHEET

CAP – PP – MSDS – HE2.0TF – 012

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| PROTECTIVE CLOTHING (PICTOGRAM) | ACUTE HEALTH | FIRE | REACTIVITY | HAZARD RATING | |
|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-----------------------|-------------------------------------------|
|  |  0 |  1 |  0 | LEAST = 0 HIGH = 3 | SLIGHT = 1 MODERATE = 2 EXTREME = 4 |

* FOR ACUTE CHRONIC HEALTH EFFECT REFER TO THE DISCUSSION IN SECTION 3

| SECTION 1 | : SUBSTANCE IDENTITY & COMPANY CONTACT INFORMATION |
|----------------------------|-----------------------------------------------------------------------------|
| PRODUCT/MATERIAL | : POLYPROPYLENE HOMOPOLYMER RESIN EXTRUSION GRADE |
| PRODUCT GRADE | : TRILENE HE2.0TF |
| CHEMICAL MOLECULAR FORMULA | : (C ₃ H ₆) _n |
| CHEMICAL NAME | : POLYPROPYLENE |
| CHEMICAL FAMILY | : POLYOLEFIN |
| MANUFACTURER | : PT. CHANDRA ASRI PETROCHEMICAL TBK (CAP) |
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| SECTION 2 | : HAZARDS IDENTIFICATION |
|----------------------|--------------------------|
| HAZARDOUS COMPONENTS | : NONE |

| SECTION 3 | : CHEMICAL COMPOSITIONS & DATA ON COMPONENTS | | | |
|-----------|----------------------------------------------|------------------------|------------|---------|
| NO. | COMPOSITION | GRADE: TRILENE HE2.0TF | CAS-NUMBER | PERCENT |
| P | POLYPROPYLENE HOMOPOLYMER | | | 100 |
| 1 | POLYPROPYLENE HOMOPOLYMER | | 9003-07-0 | > 99 |
| 2 | MINOR ADDITIVES | | | < 1 |

| SECTION 4 | : FIRST AID MEASURES |
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| * THE HEALTH EFFECTS BELOW ARE BASED UPON COMPONENT HEALTH EFFECTS CONSISTENT WITH REQUIREMENT UNDER OSHA HAZARD COMMUNICATION (29 CFR 1910.1200) | |
| EYE CONTACT | : IF MOLTEN MATERIAL CONTACTS THE EYE, FLUSH IMMEDIATELY WITH PLENTY OF WATER. GET MEDICAL ATTENTION IMMEDIATELY IF DISCOMFORT PERSISTS. |
| SKIN CONTACT | : IF MOLTEN MATERIAL CONTACTS THE SKIN, COOL AS QUICKLY AS POSSIBLE. DO NOT ATTEMPT TO PEEL THE MATERIAL FROM SKIN. GET MEDICAL ATTENTION. |
| INHALATION | : IF SYMPTOMATIC, MOVE TO FRESH AIR. GET MEDICAL ATTENTION IF SYMPTOMS PERSIST |
| INGESTION | : MATERIAL IS NOT EXPECTED TO BE ABSORBED FROM THE GASTROINTESTINAL TRACT SO THAT INDUCTION OF VOMITTING SHOULD NOT BE NECESSARY |
| NOTE TO PHYSICIANS | : BURNS SHOULD BE TREATED AS THERMAL BURNS. THE MATERIAL WILL COME OFF AS HEALING OCCURS; THEREFORE, IMMEDIATE REMOVAL FROM THE SKIN IS NOT NECESSARY. THERE IS NO SPECIFIC ANTIDOTE, TREAT SYMPTOMATICALLY. |

| SECTION 5 | : FIRE-FIGHTING MEASURES |
|-----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| FLASH POINT AND METHOD | : NOT APPLICABLE |
| FLAMMABLE LIMITS / % VOLUME IN AIR | : NOT APPLICABLE |
| EXTINGUISHING MEDIA | : USE WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL, ALCOHOL-TYPE OR UNIVERSAL-TYPE FOAMS APPLIED BY MANUFACTURER'S RECOMMENDED TECHNIQUE |
| EXTINGUISHING MEDIA | : USE WATER SPRAY, CARBON DIOXIDE, DRY CHEMICAL, ALCOHOL-TYPE OR UNIVERSAL-TYPE FOAMS APPLIED BY MANUFACTURER'S RECOMMENDED TECHNIQUE |
| FIRE FIGHTING PROCEDURES AND PRECAUTION | : MATERIAL WILL NOT BURN UNLESS PREHEATED. DO NOT ENTER CONFINED FIRE SPACE WITHOUT FULL BUNKER GEAR (HELMET WITH FACE SHIELD, BUNKER COATS, GLOVES AND RUBBER BOOTS). INCLUDING A POSITIVE PRESSURE NIOSH APPROVED SELF-CONTAINED BREATHING APPARATUS. COOL FIRE EXPOSED CONTAINERS WITH WATER. |
| UNUSUAL FIRE AND EXPLOSION HAZARDS | : TREAT AS A SOLID THAT CAN BURN. MOLDED PARTS GENERALLY BURN SLOWLY WITH A LOW SMOKE DENSITY AND FLAMING DRIPS. UNDER CERTAIN CONDITIONS CAN BURN WITH A HIGH SMOKE DENSITY . |

| SECTION 6 | : ACCIDENTAL RELEASE MEASURES |
|--------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| SMALL SPILL & LEAK | : PELLETS ON THE FLOOR COULD PRESENT A SERIOUS SLIPPING PROBLEM. EXERCISE GOOD HOUSEKEEPING TO AVOID THIS HAZARD. SWEEP, SHOVEL OR VACUUM MATERIAL INTO CLEAN CONTAINERS. |
| LARGE SPILL & LEAK | : USE A SHOVEL TO PUT THE MATERIAL INTO A CONVENIENT WASTE DISPOSAL CONTAINER. DO NOT ALLOW ANY POTENTIALLY CONTAMINATED WATER WITH PELLETS TO ENTER ANY WATERWAY, SEWER OR DRAIN. |

| SECTION 7 | : HANDLING & STORAGE |
|---------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| PERSONAL PRECAUTIONARY MEASURES | : AVOID CONTACT WITH MOLTEN MATERIAL |
| HANDLING | : MAINTAIN GOOD HOUSEKEEPING. KEEP AWAY FROM HEAT, SPARKS, OPEN FLAME OR ANY IGNITION SOURCE. USE WITH ADEQUATE VENTILATION. AFTER HANDLING, ALWAYS WASH HANDS THOROUGHLY WITH SOAP AND WATER. SPILLED PELLETS MAY CREATE A SLIPPING HAZARD. ELECTROSTATIC CHARGE MAY BUILD UP DURING HANDLING. GROUNDING OF EQUIPMENT IS RECOMMENDED. |
| STORAGE | : STORE IN A DRY PLACE WITH ADEQUATE VENTILATION AND AWAY FROM DIRECT SUNLIGHT, EXCESSIVE HEAT AND STRONG OXIDIZERS. KEEP PACKAGING (CONTAINER) CLOSED TO PREVENT CONTAMINATION. |

| SECTION 8 | : EXPOSURE CONTROLS & PERSONAL PROTECTION |
|---------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| VENTILATION | : ALTHOUGH GENERAL ROOM VENTILATION SHOULD BE ADEQUATE IN MOST APPLICATIONS, LOCAL EXHAUST VENTILATION IS RECOMMENDED FOR CONTROL OF AIRBORNE DUST, FUMES AND VAPORS, PARTICULARLY IN CONFINED AREAS. |
| RESPIRATORY PROTECTION | : USE NIOSH APPROVED RESPIRATOR IF UNABLE TO CONTROL AIRBORNE DUST, FUMES AND VAPORS |
| EYE PROTECTION | : WEAR EYE PROTECTION (SAFETY GLASSES, GOGGLES, FACESHIELDS) WHEN PROCESSING. |
| SKIN & BODY PROTECTION | : WEAR CHEMICAL-RESISTANT GLOVES, HEAT PROTECTIVE GLOVES AND PROTECTIVE CLOTHING AS WELL AS A FACESHIELD. |
| OTHER PERSONAL PROTECTION | : USE SAFETY NON-SLIP SHOES IN AREA WHERE SPILLS OR LEAKS OCCUR. |

CONTINUED ON NEXT PAGE

| SECTION 9 : PHYSICAL & CHEMICAL PROPERTIES | | | |
|-------------------------------------------------------|-----------------------------------------------------------------|----------------------------------------------|--------------------------------|
| BOILING POINT (°C) | MELT FLOW RATE _{230/2.16} (g/10min) | SPECIFIC GRAVITY (H ₂ O=1) | VAPOR PRESSURE (mmHg) |
| NOT APPLICABLE | 2.0 | <1 | NOT APPLICABLE |
| MELTING POINT (°C) | DENSITY (g/cm ³) | SOLUBILITY (IN WATER) | VAPOR DENSITY (AIR = 1) |
| 157-170 | 0.903 | INSOLUBLE | NOT APPLICABLE |
| EVAPORATION RATE (N-BUTYL ACETATE = 1) | : NOT APPLICABLE | | |
| APPEARANCE AND ODOR | : 3mm ø SOLID, WHITISH IN COLOR AND ESSENTIALLY ODORLESS PELLET | | |
| FLASH POINT | : NOT APPLICABLE, COMBUSTIBLE SOLID | | |

| SECTION 10 : STABILITY & REACTIVITY | |
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| STABILITY | : STABLE UNDER NORMAL OPERATING CONDITIONS OF STORAGE, HANDLING AND USE. |
| HAZARDOUS POLYMERIZATION | : NOT LIKELY TO OCCUR UNDER NORMAL OPERATING CONDITIONS OF STORAGE, HANDLING AND USE. |
| CONDITIONS AND MATERIALS TO AVOID | : STRONG OXIDIZING AGENTS.TEMPERATURE OVER 300°C, SPARKS AND OPEN FLAME. |
| HAZARDOUS DECOMPOSITION PRODUCTS | : THERMAL DECOMPOSITION PRODUCTS ARE HIGHLY DEPENDENT ON THE COMBUSTION CONDITIONS. A COMPLEX MIXTURE OF AIRBONE SOLID. LIQUID PARTICULATES AND GASES WILL EVOLVED WHEN THIS MATERIAL UNDERGOES PYROLYSIS OR COMBUSTION. CARBON MONOXIDE AND UNIDENTIFIED ORGANIC COMPOUNDS MAY BE FORMED UPON COMBUSTION. |

SECTION 11 : TOXICOLOGICAL INFORMATION
MATERIAL IS CONSIDERED ESSENTIALLY INERT, NON-TOXIC AND PRACTICALLY NOT HARMFUL AS WELL AS NOT HAZARDOUS SUBSTANCES UNDER RoHS REGULATION. EXPOSURES TO HIGH LEVELS OF DUST OR HEATED FUMES MAY CAUSE IRRITATION.

| SECTION 12 : ECOLOGICAL INFORMATION | |
|--------------------------------------------|----------------------------------------------------------------------------------|
| ECOTOXICITY | : MATERIAL IS NOT EXPECTED TO BE HARMFUL TO AQUATIC ORGANISMS. |
| ENVIRONMENTAL FATE | : MATERIAL IS NOT VOLATILE, INSOLUBLE IN WATER, AND RESISTANT TO BIODEGRADATION. |

| SECTION 13 : DISPOSAL CONSIDERATIONS | |
|---------------------------------------------|-----------------------------------------------------------------------------------|
| WASTE DISPOSAL | : PLACE IN AN APPROPRIATE DISPOSAL FACILITY IN COMPLIANCE WITH LOCAL REGULATIONS. |

| SECTION 14 : TRANSPORT INFORMATION | |
|-------------------------------------------|-----------------------------------------------------------------------------------------|
| TRANSPORTATION CLASSIFICATION | : NOT CONTROLLED UNDER DOT (UNITED STATES), TDG (CANADA), ADR (EUROPE), IMDG, AND IATA. |

SECTION 15 : REGULATIONS
THE COMPONENTS OF THIS PRODUCT ARE LISTED ON THE EPA/TSCA INVENTORY OF CHEMICAL SUBSTANCES.

| SECTION 16 : OTHER INFORMATION | |
|----------------------------------------------------------------|--------------------------------------------------------------------------|
| ABBREVIATIONS THAT MAY HAVE BEEN USED IN THIS DOCUMENT: | |
| | ACGIH : AMERICAN CONFERENCE of GOVERNMENTAL INDUSTRIAL HYGIENISTS |
| | DOT : DEPARTMENT OF TRANSPORTATION |
| | NIOSH : NATIONAL INSTITUTE for OCCUPATIONAL SAFETY & HEALTH |
| | OSHA : OCCUPATIONAL SAFETY & HEALTH ADMINISTRATION |
| | RoHS : RESTRICTION of HAZARDOUS SUBSTANCES |

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