



**MATERIAL SAFETY DATA SHEET**

**MSDS# 1801**

**SECTION 1**

QUADRANT EPP  
2120 FAIRMONT AVENUE  
P.O. BOX 14235  
READING, PA. 19612-4235

TELEPHONE NUMBERS:  
PRODUCT INFORMATION(Quadrant EPP ) -  
610-320-6600  
TRANSPORTATION EMERGENCY (CHEMTREC) -  
800-424-9300

MATERIAL IDENTIFICATION

PRODUCT NAME: **TORLON 4301**

CHEMICAL NAME: **POLY (AMIDE-IMIDE) POLYMER.**

CAS NO.: **NA**

PRODUCT USE: **ENGINEERING POLYMER STOCK SHAPE FOR SUBSEQUENT FABRICATION.**

TSCA INVENTORY STATUS: **ALL REPORTABLE INGREDIENTS ARE LISTED IN THE TSCA CHEMICAL SUBSTANCE INVENTORY.**

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**SECTION 2**

HAZARDOUS INGREDIENTS

IDENTITY	CAS#	ACGIH TLV
<b>NATURAL GRAPHITE</b>	<b>7782-42-5</b>	<b>2.5 mg/m<sup>3</sup></b>
<b>POLYTETRAFLUOROETHYLENE</b>	<b>9002-84-0</b>	<b>NO EXPOSURE LIMIT ESTABLISHED</b>

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**SECTION 3**

HEALTH HAZARD DATA

ACUTE OR IMMEDIATE EFFECTS: ROUTES OF ENTRY AND SYSTEMS.

INGESTION: **NOT A PROBABLE ROUTE OF EXPOSURE.**

SKIN: **MOLTEN POLYMER CAUSES THERMAL BURNS.**

EYE: **MECHANICAL IRRITATION ONLY.**

INHALATION: **SHAPES NOT RESPIRABLE BUT MACHINING MAY GENERATE A NUISANCE DUST WHICH CAN CAUSE MECHANICAL IRRITATION TO THE EYES, SKIN, NOSE AND THROAT.**

## SECTION 4

EMERGENCY FIRST AID

- If exposed to fumes from overheating, move to fresh air. Consult a physician if symptoms persist.
- Wash skin with soap and plenty of water.
- Flush eyes with water. Consult a physician if symptoms persist.
- If molten polymer contacts skin, cool rapidly with cold water. Do not attempt to peel polymer from skin. Obtain medical attention to thermal burn.

CHRONIC EFFECTS: CHRONIC INHALATION OF DUST CAN HARM THE LUNGS.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY THIS MATERIAL: NONE KNOWN.

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## SECTION 5

FIRE AND EXPLOSION HAZARD DATA

FLASHPOINT: >500 C. / 870 F.

UNUSUAL FIRE, EXPLOSION HAZARDS: TEMPERATURES ABOVE 500 C. / 870 F. ARE REQUIRED TO IGNITE THE POLYMER.

HAZARDOUS DECOMBUSTION PRODUCTS: BURNING OR HEATING WILL RELEASE VOLATILE TOXIC DEGRADATION PRODUCTS. THERMAL DEGRADATION OF POLYTETRAFLUOROETHYLENE LEADS TO THE FORMATION OF OXIDIZED PRODUCTS CONTAINING CARBON, FLUORINE AND OXYGEN.

SPECIAL FIRE FIGHTING INSTRUCTIONS: FIRE FIGHTERS AND OTHERS EXPOSED TO PRODUCTS OF COMBUSTION SHOULD WEAR FULL PROTECTIVE CLOTHING INCLUDING SELF-CONTAINED BREATHING APPARATUS. FIRE FIGHTING EQUIPMENT SHOULD BE THOROUGHLY DECONTAMINATED AFTER USE.

EXTINGUISHING MEDIA: WATER SPRAY OR ANY CLASS A EXTINGUISHING AGENT.

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## SECTION 6

ACCIDENTAL RELEASES

SPILL OR RELEASE: CLEAN UP BY VACUUMING OR SWEEPING TO PREVENT FALLS.

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## SECTION 7

STORAGE CONDITIONS

Dry storage. Keep containers closed to prevent contamination.

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## SECTION 8

PROTECTION INFORMATION

EYE: Safety glasses are recommended to prevent particulate matter from entering eyes while grinding or machining.

SKIN: Protective gloves are required when handling hot polymer. Also, long sleeve cotton shirt and long pants if handling molten polymer.

VENTILATION: Local exhaust at processing equipment to keep particulates below 2.5 mg/m<sup>3</sup>, the OSHA limit for respirable dusts. Grinding and machining of parts should be reviewed to assure that particulate levels are kept at recommended levels.

RESPIRATOR: If dust is generated and ventilation is inadequate, use NIOSH/MSHA certified respirator, which will protect against dust.

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## SECTION 9

PHYSICAL/CHEMICAL DATA

APPEARANCE: STOCK SHAPE MAY BE IN THE FORM OF ROD, PLATE, OR TUBING.

ODOR: ESSENTIALLY ODORLESS.

MELTING POINT: 260 C./500 F.

SOLUBILITY IN WATER: INSOLUBLE.

VOLATILE CONTENT %: <1%

SPECIFIC GRAVITY: 1.45

## SECTION 10

HAZARDOUS REACTIVITY

STABILITY AT ROOM TEMPERATURE: **STABLE.**

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## SECTION 11

TOXICOLOGICAL INFORMATION

CHRONIC TOXICITY: SPECIFIC TOXICITY TESTS HAVE NOT BEEN CONDUCTED ON THIS PRODUCT. THE HAZARD EVALUATION IS BASED ON INFORMATION FROM SIMILAR PRODUCTS, THE INGREDIENTS, TECHNICAL LITERATURE, AND/OR PROFESSIONAL EXPERIENCE FROM THE RESIN MANUFACTURER. GRAPHITE DUST CAN BE LIBERATED UPON MACHINING. GRAPHITE DUST CAN CAUSE ALLERGIC SKIN REACTIONS IN SUSCEPTIBLE INDIVIDUALS. OVEREXPOSURE FOR 4 TO 10 YEARS TO GRAPHITE DUST CAN CAUSE GRAPHITE PNEUMOCONIOSIS (A DISEASE OF THE LUNGS).

THIS POLYMER CONTAINS LOW LEVELS OF POLYTETRAFLUOROETHYLENE (PTFE). VAPORS WHICH CAN CAUSE FLU-LIKE SYMPTOMS ARE LIBERATED FROM PTFE AT TEMPERATURES ABOVE 250 C./480 F. OR IF CIGARETTES OR OTHER SMOKING MATERIALS ARE CONTAMINATED WITH POLYMER DUST OR MACHINE WASTE. THESE FLU-LIKE SYMPTOMS ARE NOT KNOWN TO OCCUR WITH POLYMERS CONTAINING LOW LEVELS OF PTFE.

CARCINOGENICITY: NO COMPONENT OF THIS PRODUCT PRESENT AT LEVELS GREATER THAN 0.1% IS IDENTIFIED AS A CARCINOGEN BY NTP, IARC OR OSHA.

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## SECTION 12

ECOLOGICAL INFORMATION

AQUATIC TOXICITY: Toxicity is expected to be low based on insolubility of polymer in water.

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## SECTION 13

DISPOSAL

SPILL OR RELEASE: Clean up by vacuuming or wet sweeping to minimize dust exposure.

WASTE DISPOSAL: Recycling is encouraged, Landfill or incineration in compliance with Federal, State, and Local regulations.

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## SECTION 14

TRANSPORT INFORMATION

DOT HAZARD CLASS: **NA**  
SHIPPING NAME: **NA**

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## SECTION 15

## REGULATORY INFORMATION

SECTION 313 SUPPLIER NOTIFICATION:  
(SARA TITLE III-TOXIC CHEMICALS LIST)

This product contains the hazardous chemicals mentioned in SECTION 2 of this MSDS for routine annual "TOXIC CHEMICAL RELEASE REPORTING" of section 313 of the Emergency Planning and Community Right-To-Know Act of 1986 and 40 CFR 372.

STATE RIGHT TO KNOW LAWS

No substances on the state hazardous list, for the states indicated below, are used in the manufacture of products on this Material Safety Data Sheet, with the exceptions indicated. While we do not specifically analyze these products, or the raw materials used in their manufacture, for substances on various state hazardous substances lists, to the best of our knowledge the products on this Material Safety Data Sheet contain no such substances except for those specifically listed below:

PENNSYLVANIA:

SUBSTANCES ON THE PENNSYLVANIA HAZARDOUS SUBSTANCES LIST PRESENT AT A CONCENTRATION OF 1% OR MORE: **NONE KNOWN.**

SUBSTANCES ON THE PENNSYLVANIA SPECIAL HAZARDOUS SUBSTANCES LIST PRESENT AT A CONCENTRATION OF 0.01% OR MORE: **NONE KNOWN.**

CALIFORNIA PROPOSITION 65:

SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER: **NONE KNOWN.**

SUBSTANCES KNOWN TO THE STATE OF CALIFORNIA TO CAUSE BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM: **NONE KNOWN.**

## HMIS RATING

Health	0
Flammability	1
Reactivity	0
PPE	A
#Acute *Chronic	

## SECTION 16

MISCELLANEOUS INFORMATION

Dennis Warner, NAQE Manager

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The information set forth herein has been gathered from standard reference materials and/or supplier test data and is, to the best knowledge and belief of Quadrant EPP, accurate and reliable. Such information is offered solely for your consideration, investigation and verification, and it is not suggested or guaranteed that the hazard precautions or procedures mentioned are the only ones that exist. Quadrant EPP makes no warranties, expressed or implied, with respect to the use of such information or the use of the specific material identified herein in combination with any other material or process, and assumes no responsibility therefor.

NA = Not applicable

NE = Not established.

> = New or revised information in this section when " > " appears in the left margin.

**END OF MSDS**