

Material Safety Data Sheet

TICONA

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Product Name: GUR 4170 NATURAL
Product Code: AG4170
MSDS Number: GUR004
Revision Number: 2
Version Date: 08/09/2001

Section 1. Chemical, Product and Company Identification

Product Name: GUR 4170 NATURAL
Product Code: AG4170
MSDS Number: GUR004
Synonyms: POLYETHYLENE
ETHENE HOMOPOLYMER
ULTRA HIGH MOLECULAR WEIGHT POLYETHYLENE (UHMWPE)
Responsible Party: TICONA (formerly Hoechst Celanese Corporation)
86 MORRIS AVE.
SUMMIT, NJ 07901
UNITED STATES
<http://www.ticona-us.com>

MANUFACTURED IN GERMANY BY TICONA GMBH.
Product Use: Engineering thermoplastic.
MSDS prepared by Barry Fink of Ticona (phone 908-522-7223)

Section 2. Composition/Information on Ingredients

Ingredients:	Ingredient	CAS Number
	Base Resin	9002-88-4

While this product is not classified as hazardous under OSHA Regulations, this MSDS contains valuable information critical to the safe handling and proper use of the product. This MSDS should be retained and made available for employees and other users of the product.

This product is not regulated by WHMIS.

Section 3. Hazards Identification


Emergency Overview: Fine white powder with slight to no odor. Fine powder may present a dust explosion hazard if suspended in air. Combustion and decomposition may produce hazardous fumes. Hot or molten material can cause thermal burns on contact with skin or eyes. Spilled powder may create a slipping hazard.

Potential Health Effects:

Routes of Exposure: Skin and eye contact, inhalation of dust and inhalation of vapors, if overheated.

Signs and Symptoms of Exposure: This specific product has not been tested.

Immediate Effects:

 Transportation Emergency: (800)424-9300 CHEMTREC - 24 hrs in USA
(703)527-3887 Outside USA
Product Emergency: (888)522-7816 Ticona - 24 hrs/day, toll free in the USA and Canada.
Product Information: (800)833-4882

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- Skin:** This specific product has not been tested. Hot or molten material has the potential to cause thermal burns. Polymer particles can cause mechanical irritation.
- Eyes:** This specific product has not been tested. Polymer particles can cause mechanical irritation. Degradation vapors may cause irritation.
- Inhalation:** This specific product has not been tested. In the form supplied, this material is not considered an inhalation hazard; polymer particles may be considered an inert nuisance particulate. Overheating in processing may generate hazardous, irritating vapors. Avoid breathing dust or vapor.
- Ingestion:** This specific product has not been tested; however, low toxicity by this route is expected based on the biological activity of similar materials.

Long Term/Delayed Effects: This specific product has not been tested.


Medical Conditions Aggravated by Exposure: This specific product has not been tested.

Section 4. First Aid Measures

- Skin:** If hot or molten polymer or hot vapors contact skin, cool rapidly with cold water. If polymer is stuck to skin, do not remove. Seek medical attention. Allow adhered polymer to come off naturally. Removal of adhered polymer may result in more tissue damage than if polymer is allowed to come off over time.
- Eyes:** Flush with plenty of water. Seek medical attention if discomfort persists, and to remove foreign body.
- Inhalation:** Remove to fresh air. Seek medical attention if breathing difficulties occur.
- Ingestion:** If a significant quantity has been swallowed, give two glasses of water to dilute. Seek medical attention.
- Note to Physicians:** This product is essentially inert and nontoxic. However, if it is heated at too high a temperature or if it is burned, gases may be released (see Sections 5 and 10 for off-gases). Patients who have been exposed to off-gases may need to have their arterial blood gases and carboxyhemoglobin levels checked. If the carboxyhemoglobin levels are normal, asphyxia (carbon dioxide replacing oxygen) is a possibility. As with any fire, irritant gases may have formed. If patients may have inhaled high concentrations of irritating fumes, they should be monitored for delayed onset pulmonary edema.
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Section 5. Fire Fighting Measures

- Flashpoint:** Not applicable.
- Minimum ignition energy: 0.25 joules
Hazard Class: St-1
Deflagration Index: 18 bar-m/sec
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Hazardous Products of Combustion: Carbon monoxide and carbon dioxide.

Extinguishing Media: Water spray, foam, carbon dioxide, or dry chemical.

Firefighting Instructions: Firefighters should wear self-contained breathing apparatus and full fire-fighting turn-out gear (bunker gear). Keep personnel removed from and upwind of fire. Water should be used to keep fire-exposed containers cool. Water, foam and dry chemical may cause damage to electrical equipment.

Section 6. Accidental Release Measures

*For more information, see regulatory section 15.

Procedures in Case of Spill or Leak: Sweep or gather up spills and place in proper container for recovery or disposal. Ticona supports SPI's Operation Clean Sweep.

Section 7. Handling and Storage

Handling: Do not handle hot or molten material without appropriate protective equipment. Maintain good housekeeping in work areas. Do not exceed recommended process temperatures to minimize release of decomposition products. Do not smoke in areas where polymer dust is present. Appropriate measures should be taken to control the generation and accumulation of dust during conveying and processing operations. Electrical grounding of equipment and the minimization of ignition sources is required when handling powder to avoid possible dust explosion.

Storage: Store in a cool dry place.

Section 8. Exposure Controls/Personal Protection

Engineering Controls: Local Exhaust: Recommended when appropriate to control employee exposure to dust or process vapors.
General: May not be adequate as the sole means to control employee exposure.

Protective Equipment:


Skin: When thermal or melt processing, wear long pants, long sleeves, well insulated gloves, and face shield when there is a chance of contact.

Eyes: Safety eyewear recommended.

Inhalation: A NIOSH approved respirator is recommended if there is a possibility of dust generation above permissible exposure limits or that decomposition vapors may be generated.

Exposure Guidelines:

Ingredient:	Agency:	Value:
Nuisance/inert dust	OSHA PEL	15 mg/cu m (total) 5 mg/cu m (respirable)
Nuisance particulates	ACGIH TLV	10 mg/cu m (total) 3 mg/cu m (respirable)

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Ticona recommends the ACGIH Limit.

Section 9. Physical and Chemical Properties

Appearance: White powder
Odor: Slight to none
Physical State: Solid
Vapor Pressure: Not applicable
Vapor Density: Not applicable
Solubility: < 0.001 Wt % (in water)
Specific Gravity: 0.925-0.940 @ 25 deg C

Section 10. Stability and Reactivity

Chemical Stability: Stable under ordinary conditions of use and storage.

Conditions to Avoid: Flame; avoid prolonged heating at processing temperatures. Do not heat above 330 deg C (626 deg F). Avoid prolonged heating above 250 deg C (482 deg F). Fine powder may present a dust explosion hazard. Appropriate measures should be taken to control the generation of and accumulation of dust during conveying and processing operations. Electrical grounding of equipment and the minimization of ignition sources is required when handling powder to avoid possible dust explosion.

Incompatibility: Halogens, strong oxidizers and aromatic solvents.

Hazardous Decomposition Products: Aliphatic hydrocarbons.

Hazardous Polymerization: Will not occur.

Section 11. Toxicological Information

No specific information available on the product.

Section 12 Ecological Information


Ecotoxicity: No specific information available on the product.

Environmental Fate/Information: This material is considered to be non-biodegradable.

Section 13. Disposal Considerations

Disposal: Recycling is encouraged. Dispose of in accordance with federal, state, and local regulations. This product, as shipped, is not a RCRA hazardous waste under present EPA regulations.

Section 14. Transport Information

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Not regulated under US Department of Transportation.

Section 15. Regulatory Information

TSCA: All ingredients are listed in the TSCA Inventory or are compliant with the TSCA Polymer Exemption Rule.

SARA: This product does not contain any toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act of 1986 and of 40 CFR 372.

Section 16. Other Information

Hazard Ratings:	Agency	Health	Flammability	Reactivity	Other
	NFPA	1	1	0	
	HMIS	1	0	0	

Note 1: NFPA and HMIS ratings are as determined by Ticona.

Note 2: Revisions in this version include addition of flammability information in Section 5.

Disclaimer: This product is not intended for use in medical or dental implants.

Refer to the appropriate Ticona bulletins for specific processing guidance and good manufacturing practices (purging, processing parameters, shutdown, etc.).

The information contained herein is accurate to the best of our knowledge. We do not suggest or guarantee that any hazards listed herein are the only ones which exist. Ticona makes no warranty of any kind, express or implied, concerning the safe use of this material in your process or in combination with other substances. Effects can be aggravated by other materials and/or this material may aggravate or add to the effects of other materials. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated. User must meet all applicable safety and health standards.



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