

<b>Product name</b>	GUR® 4170		TNA/EN
<b>MSDS number</b>	8720005001	<b>Revision Date</b>	Dec.04.2009
<b>Revision Number</b>	0	<b>Issuing date</b>	Dec.14.2011

## 1. Identification of the substance/preparation and of the company/undertaking

**Product name** GUR® 4170  
**Material Number:** 20005001  
**MSDS ID** GUR101

### Manufacturer, importer, supplier

#### TICONA

Corporate Headquarters  
8040 Dixie Hwy.  
Florence, KY 41042  
United States  
<http://www.ticona.com>

### Transportation emergency phone numbers:

In USA, call 800-424-9300  
Outside USA, call 703-527-3887, collect calls accepted

### Product Information

1-800-833-4882  
[prodinfo@ticona.com](mailto:prodinfo@ticona.com)

### Synonyms:

Ultra High Molecular Weight Polyethylene / PE-UHMW

### End Use:

Plastic processing industry.

## 2. Hazards identification

### Emergency Overview

Fine white powder with slight to no odor.  
Fine powder may present a dust explosion hazard if suspended in air.  
Spilled product may create a slipping hazard.  
The molten product can cause serious burns.

### Potential health effects

#### Immediate effects

<b>Skin</b>	Polymer particles may cause mechanical irritation.
<b>Eyes</b>	Resin particles, like other inert materials, are mechanically irritating to eyes

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**Inhalation** Dust irritating to respiratory tract. Overheating in processing may generate hazardous, irritating vapours.

**Ingestion** Low toxicity by this route is expected based on the biological activity of high molecular weight polymers.

### 3. Composition/information on ingredients

**Chemical characterization** Ethylene, polymer CAS-RN. basic polymer: 9002-88-4

This product may contain proprietary ingredients.

This is a polymeric material. Any hazardous constituents are wetted by the polymer system, and therefore are unlikely to present exposure under normal conditions of processing and handling.

### 4. First aid measures

#### **Skin**

Wash off with soap and water. If symptoms persist, call a physician. Cool skin rapidly with cold water after contact with molten polymer.

#### **Eyes**

Immediately flush eye(s) with plenty of water. Call a physician if irritation persists.

#### **Inhalation**

Move to fresh air in case of accidental inhalation of dust. Get medical attention immediately if symptoms occur.

#### **Ingestion**

If swallowed, do not induce vomiting - seek medical advice.

#### **Notes to physician**

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. 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

### 5. Fire-fighting measures

#### **Suitable extinguishing media**

Water, Foam, Dry powder

#### **Extinguishing media which must not be used for safety reasons**

Do not use a solid water stream as it may scatter and spread fire.

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## Special exposure hazards arising from the substance or preparation itself, its combustion products, or released gases

carbon monoxide  
carbon dioxide (CO<sub>2</sub>)

## Special protective equipment for fire-fighters

Wear self-contained breathing apparatus and protective suit.

## Other Information

Potential dust explosion hazard.

## Dust explosibility class

St-1

## 6. Accidental release measures

### Personal precautions

Do not breathe dust. Avoid dust formation.

### Environmental precautions

No special precautions required.

### Methods for cleaning up

Avoid dust formation. Potential dust explosion hazard. Remove all sources of ignition. Do not create a powder cloud by using a brush or compressed air. Contain spillage, pick up with an electrically protected vacuum cleaner or by wet-brushing and transfer to a container for disposal according to local regulations (see section 13).

## 7. Handling and storage

### Handling

#### Protection - fire and explosion:

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.

#### Advice on safe handling

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

#### Material storage

Store in a cool dry place.

## 8. Exposure controls/personal protection

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## 8. Exposure controls/personal protection

### OSHA Exposure Limits

No exposure limits established.

### ACGIH Exposure Limits

No exposure limits established.

### Mexico National Exposure Limits

No exposure limits established

## Exposure controls

### Engineering measures

General: May not be adequate as the sole means to control employee exposure.

Local Exhaust: Recommended when appropriate to control employee exposure to dust or process vapors

### Respiratory protection

In case of insufficient ventilation wear suitable respiratory equipment

### Skin protection:

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

### Eye/face protection:

safety glasses with side-shields. Safety goggles.

## 9. Physical and chemical properties

### Appearance

<b>Form</b>	powder
<b>Odor</b>	slight , specific .
<b>Flash point</b>	Not applicable
<b>Ignition temperature</b>	> 210°C (662°F)
<b>Method</b>	ASTM D 1929
<b>Density</b>	approx 0,93- 0,945 g/ml @ 25°C
<b>Method</b>	ISO 1183, Process A
<b>Bulk density</b>	0,35 - 0,50 g/cm³ 20°C
<b>Method</b>	ISO 60

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**Water solubility** insoluble

## 10. Stability and reactivity

### Reactivity

Stable under normal conditions.

### Conditions to avoid

Flame. Avoid prolonged heating at or above the recommended processing temperature. Fine powder may present a dust explosion hazard. 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.

### Incompatible Materials

Halogens, strong oxidizing agents, aromatic solvents.

### Hazardous Combustion or Decomposition Products:

Thermal decomposition products may include oxides of carbon.

## 11. Toxicological information

No data is available on the product itself

## 12. Ecological information

### Ecotoxicity:

No data is available on the product itself

### Environmental Fate/Information:

This material is considered to be non-biodegradable.

## 13. Disposal considerations

### Disposal considerations

Recycling is encouraged. Dispose of spilled material in accordance with state and local regulations for waste that is non-hazardous by Federal definition. Note that this information applies to the material as manufactured; processing, use, or contamination may make this information inappropriate, inaccurate, or incomplete.

This product as shipped is not a RCRA hazardous waste under present EPA regulations

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**14. Transport information**

**US Department of Transportation** Not regulated

**TDG** Not regulated

**Mexico Transport Information** Not regulated

**ICAO/IATA** Not restricted

**IMDG** Not regulated

**15. Regulatory information**

**U.S. FEDERAL REGULATIONS**

**TSCA Inventory**

This product complies with the U.S. Toxic Substances Control Act (TSCA).

**SARA 313 Chemicals**

Contains no substances at or above the reporting threshold under Section 313.

**CANADIAN REGULATIONS**

**WHMIS Classification:**

Not a WHMIS controlled product.

**WHMIS Ingredient Disclosure List**

This product does not contain substances required to be disclosed according to the Canada WHMIS Ingredient Disclosure List.

**16. Other information**

**Prepared By**

Product Stewardship Department  
Ticona

NFPA:	Health: 1	Flammability: 1	Instability: 0
HMIS:	Health: 1	Flammability: 1	Physical Hazard: 0

Changes against the previous version are marked by \*\*\*

# Material Safety Data Sheet



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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.

#### Abbreviation and Acronym:

ADR = Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)

CAS = Chemical Abstracts Service (division of the American Chemical Society)

CLP = Classification, Labelling and Packaging

DNEL = Derived No Effect Level

EINECS = European Inventory of Existing Commercial Chemical Substances

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC Code = International Code for the Construction and Equipment of Ships Carrying Dangerous Chemicals in Bulk (IMO)

ICAO = International Civil Aviation Organization

IMDG = International Maritime Code for Dangerous Goods