



# HEXAFLUOROGLUTARIC ACID

## Safety Data Sheet

Prepared: 4/11/1997

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### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product identifiers

Product name: HEXAFLUOROGLUTARIC ACID  
Product number: C5DIAC  
CAS-No. 376-73-8

#### 1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses: Laboratory chemicals, Manufacture of substances

#### 1.3 Details of the supplier of the safety data sheet

Company: Exfluor Research Corporation  
2350 Double Creek Drive  
ROUND ROCK, TEXAS 78664  
USA

Telephone: +1 512-310-9044

#### 1.4 24-hour Emergency telephone number

Contact INFOTRAC at:  
1-800-535-5053 (US, Canada)  
1-352-323-3500 (International)

ER # 84263

### 2. HAZARDS IDENTIFICATION

#### 2.1 Classification of the substance or mixture

##### GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Skin corrosion (Category 1B) H314  
Serious eye damage (Category 1) H318

For the full text of the H - Statements mentioned in this Section, see Section 16.

#### 2.2 GHS Label Elements, including precautionary statements

Pictogram



Signal word

Danger

Hazard statement(s)

H314

Causes severe skin burns and eye damage.

Precautionary statement(s)

P260

Do not breathe dust or mist.

P264

Wash skin thoroughly after handling.

P280

Wear protective gloves/ protective clothing/ eye protection/ face protection

P301 + P330 + P331

IF SWALLOWED: rinse mouth. Do NOT induce vomiting.

P303 + P361+ P353

IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing.  
Rinse skin with water/ shower

P304 + P340	IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.
P305 + P351 + P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P310	Immediately call a POISON CENTER or doctor/ physician.
P321	Specific treatment (see supplemental first aid instructions on this label).
P363	Wash contaminated clothing before reuse.
P405	Store locked up.
P501	Dispose of contents/ container to an approved waste disposal plant.

**2.3 Hazards not otherwise classified (HNOC) or not covered by GHS**  
Extremely **HYGROSCOPIC**

**3. COMPOSITION / INFORMATION ON INGREDIENTS**

**3.1 Substances**

Synonyms:	Perfluorogluatric acid
Formula	C <sub>5</sub> H <sub>2</sub> F <sub>6</sub> O <sub>4</sub>
Molecular Weight	240.06 g/mol
CAS-No.	336-08-3
EC-No.	206-813-9

For the full text of the H - Statements mentioned in this Section, see Section 16.

**4. FIRST-AID MEASURES**

**4.1 Description of first-aid measures**

**General advice**

Move out of dangerous area. Consult a physician. Show this safety sheet to the doctor in attendance.

**If inhaled**

Remove victim to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.

**In case of skin contact**

Flush skin with plenty of soap and water for at least 15 minutes while removing contaminated clothing and shoes.

**In case of eye contact**

Immediately flush eyes with plenty of water for at least 15 minutes. Ensure adequate flushing of the eyes by separating the eyelids with fingers.

**If swallowed**

Do not induce vomiting. Never give anything by mouth to an unconscious person. Allow victim to rinse his mouth with water. Allow victim to drink 2 – 4 cupfuls of water. Call Poison Control center.

**4.2 Most important symptoms and effects, both acute and delayed**

See § 2.2 and § 11.

**4.3 Indication of any immediate medical attention and special treatment needed**

Note to physician: Treat symptomatically and supportively.

**5. FIRE FIGHTING MEASURES**

**5.1 Extinguishing media**

Water spray, carbon dioxide, dry chemical powder, or polymer foam.

**5.2 Special hazards arising from the substance or mixture**

Slight fire hazard. Dust/air mixtures may ignite or explode.  
Releases toxic fumes of carbon oxides and hydrogen fluoride.

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

#### 5.4 Further information

Flammability classification (OSHA 29 CFR 1910.106):

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### 6. ACCIDENTAL RELEASE MEASURES

#### 6.1 Personal precautions, protective equipment, and emergency measures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist, or gas. Ensure adequate ventilation. Keep people away from and upwind of spill/ leak. Restrict access to area until completion of clean-up.

#### 6.2 Environmental precautions

Do not allow material to enter drains. If necessary, dike ahead of spill to prevent runoff into drains, sewers, or any natural waterway or drinking supply.

#### 6.3 Methods and materials for containment and cleaning up

Prevent further leakage or spillage if safe to do so. Soak up the spill with an inert absorbent material. Contaminated absorbent material may pose the same hazards as the spilled product. Place in container for disposal according to local regulations.

*If applicable:* If a spill/ release in excess of the EPA reportable quantity is made into the environment, immediately notify the national response center in the US at 1-800-424-8802.

#### 6.4 Reference to other sections

Refer to protective measures listed in § 7 and § 8.

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### 7. HANDLING AND STORAGE

#### 7.1 Precautions for safe handling

Do not handle until all safety precautions have been read and understood. Wear protective gloves and eye/face protection. Use only in well-ventilated areas. Avoid inhalation of vapor or mist. Avoid contact with skin, eyes, and clothing. Keep away from heat and open flames. Do not eat, drink, or smoke when using this product. Wash hands thoroughly after handling.

#### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed. Store in cool, dry, and well-ventilated place. Empty containers retain residue (powder and/or vapor) and can be dangerous. Store and handle in accordance with all current regulations and standards. Keep separated from incompatible substances (see § 10.5).

#### 7.3 Specific use(s)

Apart from the uses mentioned in § 1.2 no other specific uses are stipulated.

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### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

#### 8.1 Control parameters

##### Components with workplace control parameters

Contains no substances with occupational exposure limit values.

#### 8.2 Exposure controls

##### Appropriate engineering controls

Use only in well-ventilated areas. Provide local exhaust or a process enclosure ventilation system. Ventilation equipment should be explosion-resistant if explosive concentrations of material are present. Avoid contact with skin, eyes and clothing.

##### Personal protective equipment

###### Eye/face protection

Wear chemical safety goggles and face shield. Provide an emergency eye wash station and quick drench shower in the immediate work area.

### **Skin protection**

Handle with appropriate chemical-resistant gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### **Body protection**

The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### **Respiratory protection**

For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### **Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

### **General hygiene considerations**

Do not breathe vapors. Avoid contact with skin, eyes, and clothing. Do not eat, drink, or smoke when using this product. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

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## **9. PHYSICAL AND CHEMICAL PROPERTIES**

### **9.1 Information on basic physical and chemical properties**

a)	Appearance	white powder
b)	Odor	no data available
c)	Odor threshold	no data available
d)	pH	no data available
e)	Melting/freezing point	88-91 °C (190-196 °F)
f)	Initial boiling point/range	134-138 °C (273-280°F) at 3 mmHg
g)	Flash point	no data available
h)	Evaporation rate	no data available
i)	Flammability (solid, gas)	no data available
j)	Upper/lower flammability or explosive limits	no data available
k)	Vapor pressure	no data available
l)	Vapor density	no data available
m)	Relative density	no data available
n)	Solubility	no data available
o)	Partition coefficient: n-octanol/water	no data available
p)	Auto-ignition temperature	no data available
q)	Decomposition temperature	no data available
r)	Viscosity	no data available
s)	Explosive properties	no data available
t)	Oxidizing properties	no data available

### **9.2 Other safety information**

none

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## **10. STABILITY AND REACTIVITY**

### **10.1 Reactivity**

No unusual reactivity. See § 10.5.

### **10.2 Chemical stability**

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reaction

Hazardous polymerization has not been reported.

### 10.4 Conditions to avoid

Extreme heat.

Avoid generating dust.

Avoid moisture. Extremely **HYGROSCOPIC**.

### 10.5 Incompatible materials

Strong oxidizing agents, Strong reducing agents, strong bases

### 10.6 Hazardous decomposition products

Releases toxic fumes of carbon oxides and hydrogen fluoride.

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## 11. TOXICOLOGICAL INFORMATION

### 11.1 Information on toxicological effects

#### Acute toxicity

No data available

#### Skin corrosion/ irritation

Irritant effect

#### Serious eye damage/ irritation

Irritant effect

#### Respiratory or skin sensitization

Irritant effect

#### Germ cell mutagenicity

No data available

#### Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible, or confirmed human carcinogen by IARC.

ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

NTP: No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA.

#### Reproductive toxicity

No data available

#### Specific target organ toxicity – single exposure

No data available

#### Specific target organ toxicity -- repeated exposure

No data available

#### Aspiration hazard

No data available

### 11.2 Additional information

To the best of our knowledge, the acute and chronic toxicity of this substance is not fully known.

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## 12. ECOLOGICAL INFORMATION

### 12.1 Toxicity

No data available

### 12.2 Persistence and degradability

No data available

### 12.3 Bioaccumulative potential

No data available

### 12.4 Mobility in soil

No data available

### 12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted.

### 12.6 Other adverse effects

No data available

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## 13. DISPOSAL CONSIDERATIONS

### 13.1 Waste treatment methods

#### Product

Refer to protective measure listed in § 7 and § 8.

Dispose of in accordance with all applicable federal, state, and local regulations.

Place in a chemical secured landfill or incinerate at 1200°C with a 2 second dwell time or at 1600°C with a 1.5 second dwell time. Offer surplus and non-recyclable solutions to a licensed disposal company.

#### Contaminated packaging

Empty containers retain residue and can be dangerous. Disposal must be made according to official regulations.

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## 14. TRANSPORTATION INFORMATION

### DOT (US) / IMDG / IATA

Proper Shipping Name: Corrosive solid, acidic, organic, n.o.s. (Hexafluoroglutaric acid)

UN / ID #: UN 3261

Hazard Class: 8

Packing Group: III

Labels: 8

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## 15. REGULATORY INFORMATION

### US federal information

This product is listed on the TSCA Inventory.

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## 16. OTHER INFORMATION

### Full text of H-Statements referred to under sections 2 and 3.

H314 Causes severe skin burns and eye damage.

H318 Causes serious eye damage

### HMIS Rating

Health hazard: 0

Chronic Health Hazard:

Flammability: 0

Physical Hazard 0

**NFPA Rating**

Health hazard: 0  
Fire Hazard: 0  
Reactivity Hazard: 0

**Further information**

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. Exflur Research Corporation shall not be held liable for any damage resulting from handling or from contact with the above product.