

1: Identification of substance / mixture

1. Product Identifier

Substance

Product Name **Crotonic acid**
Product Code 092792
CAS Number 107-93-7
Other Names trans-2-Butenoic acid
3-Methylacrylic acid
trans-crotonic acid
IUPAC
MFCN Number MFCN00002701
EC/EINECS 203-533-9
REACH Number

Index-No

2. Relevant identified uses of the substance or mixture and uses advised against

Research and Development

3. Details of the supplier of the safety data sheet

Fluorochem Ltd
Unit 14, Graphite Way
Hadfield
Derbyshire
SK13 1QH
UK

Telephone: +44(0)1457 860111
Fax: +44(0)1457 892799
Email: sds@fluorochem.co.uk



4. Emergency telephone number

+44(0)7855 268577 -

2. Hazards Identification

1. Classification of the substance or mixture

H302	Acute Tox. 4	
H312	Acute Tox. 4	
H315	Skin Irrit. 2	
H318	Eye Dam. 1	
H332	Acute Tox. 4	
H335	STOT SE 3	

2. Label elements

Signal Word **Danger**



Hazard Statements

H302	Harmful if swallowed.
H312	Harmful in contact with skin.
H315	Causes skin irritation.
H318	Causes serious eye damage.
H332	Harmful if inhaled.
H335	May cause respiratory irritation.

Precautionary Phrases

P260	Do not breathe dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301 + P312	IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.
P302 + P352	IF ON SKIN: Wash with plenty of soap and water.
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.

3. Other Hazards

Additional precautionary phrases are located throughout the safety data sheet

3. Composition / Information on Ingredients

1. Substances

Product Name	Hazards	Concentration
Crotonic acid		
	CAS Number: 107-93-7 EC/EINECS: 203-533-9	H302, H312, H315, H318, H332, H335 Acute Tox. 4, Eye Dam. 1, Skin Irrit. 2, STOT SE 3 <=100%

4. First Aid Measures

1. Description of first aid measures

Skin Contact P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P332 + P313: If skin irritation occurs: Get medical advice/attention.

Eye Contact P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

Ingestion P301 + P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.

Inhalation P304 + P340: IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

2. Most important symptoms and effects

There may be pain and redness.

3. Indication of any immediate medical attention

No additional measures required

5. Firefighting measures

1. Extinguishing Media

Suitable Carbon dioxide.
Dry chemical powder.
Water spray.
fight larger fires with water jet or alcohol resistant foam

Unsuitable no data

2. Special Hazards arising from the substance or mixture

In combustion toxic fumes may form.

3. Advice for Fire Fighters

Wear self-contained breathing apparatus.
Wear protective clothing to prevent contact with skin and eyes.

6. Accidental Release Measures

1. Personal Precautions

Do not attempt to take action without suitable protective clothing – see section 8 of SDS.
Remove all incompatible materials as outlined in section 10 of SDS.
If outside keep bystanders upwind and away from danger point.

2. Environmental Precautions

Do not discharge into drains or rivers.
Contain the spillage using bunding.

3. Methods & Materials

Mix with sand or vermiculite.
Transfer to a closable, labelled salvage container for disposal by an appropriate method.

4. Preventing the occurrence of secondary hazards.

No Special Measures Required

7. Handling and Storage

1. Personal Precautions

Safe Handling Ensure there is sufficient ventilation of the area.
P264: Wash hands thoroughly after handling.
P270: Do not eat, drink or smoke when using this product.

Protection against explosions and fires P362: Take off contaminated clothing and wash before reuse.
normal measures for preventive fire protection

2. Conditions for safe storage, including any incompatibilities

Managing Storage Risks Store in cool, well ventilated area.
Keep container tightly closed.

Storage Controls No special requirements

Maintaining Integrity P233: Keep container tightly closed.
Store away from oxidising agents

Other advice P403: Store in a well-ventilated place.

3. Specific End Uses

The end use(s) have not been fully determined. The substance is supplied for Research and Development purposes by professionals only.

8. Exposure Controls/Personal Protection

1. Control Parameters

No Data Available

2. Exposure Controls

General protective and hygiene measures P280: Wear protective gloves/protective clothing/eye protection/face protection.
Wash hands during breaks and at the end of handling the material
Immediately remove any contaminated clothing

Engineering measures P271: Use only outdoors or in a well-ventilated area.

Eye / Face Protection Safety Glasses with side-shields.

Hand protection Protective gloves.

Respiratory protection P260: Do not breathe dust/fume/gas/mist/vapours/spray.
Use breathing protection with high concentrations

Skin protection Handle with gloves.
Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practice.
Wash and dry hands.
Protective clothing.

Other personal protection advice no data

9. Physical and Chemical Properties

1. Physical and Chemical Properties

Appearance	Solid
Odour	No Data Available
Odour threshold	No Data Available
PH	No Data Available
Melting point / Freezing point	70-72°C
Initial boiling point and boiling range	180-181°C

Flash point	88°C
Evaporation rate	No Data Available
Flammability(solid,gas)	No Data Available
Upper/lower flammability or explosive limits	No Data Available
Vapour pressure	No Data Available
Vapour density	No Data Available
Relative density	1.027
Solubility(ies):	No Data Available
Partition coefficient: n-octanol/water	No Data Available
Auto-ignition temperature	No Data Available
Decomposition temperature	No Data Available
Viscosity	No Data Available
Explosive properties	No Data Available
Oxidising properties	No Data Available

2. Other Information

No additional information available

10. Stability and Reactivity

1. Reactivity

no unusual reactivity

2. Stability

Stable under normal conditions.

3. Possibility of Hazardous Reactions

no hazardous reactions known

4. Conditions to Avoid

no specific conditions to avoid

5. Incompatible Materials

Oxidising agents.
Strong reducing agents.
Strong bases.

6. Hazardous Decomposition Products

In combustion emits toxic fumes.
In combustion emits toxic fumes of carbon dioxide / carbon monoxide.

11. Toxicology information

1. Information

<i>Acute Toxicity</i>	Oral LD50 (rat - female) 2,610mg/kg Dermal LD50 (rat) >2000mg/kg
<i>Skin corrosion/irritation</i>	irritant for skin and mucous membranes
<i>Serious eye Damage/irritation</i>	strong irritant effect Causes serious eye damage.
<i>Respiratory or skin sensitisation</i>	May cause respiratory irritation
<i>Germ Cell mutagenicity</i>	not known
<i>Carcinogenicity</i>	not known
<i>Reproductive toxicity</i>	not known
<i>STOT-single exposure</i>	not known

STOT-repeated exposure not known

Aspiration hazard not known

2. Additional

To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH

12. Ecological Information

1. Toxicity

not known

2. Persistence and degradability

not known

3. Bio-Accumulative Potential

not known

4. Mobility and Soil

not known

5. Results of PBT & vPvB assessment

not known

6. Other adverse effects

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

13. Disposal Considerations

1. Waste Treatment Methods

Disposal Operations Consult state, local or national regulations for proper disposal.

Disposal of Packaging Disposal must be made according to official regulations.

14. Transport Information

Air (ICAO)

1. **UN Number:** 2823
2. **Shipping Name:** Crotonic acid, solid
3. **Transport hazard class(es):** : 8 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Road (ADR)

1. **UN Number:** 2823
2. **Shipping Name:** CROTONIC ACID, SOLID
3. **Transport hazard class(es):** : 8 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:**

Sea (IMDG)

1. **UN Number:** 2823
2. **Shipping Name:** Crotonic acid, solid
3. **Transport hazard class(es):** : 8 Sub Class :



4. **Packing group:** III
5. **Environmental hazards:**
6. **Special Precautions for user:**
7. **Transport in bulk:** IBCINS: IBC08
IBCPCOV: B3, B21
TANKPROV: TP33

15. Safety, health, environmental and national regulations

1. Safety, health, environmental and national regulations:

product is not subject to any additional regulations or provisions

2. Safety Assessment

No Chemical Safety Assessment

16. Other Information

1. Other Information:

ADR: Accord European sur le transport des marchandises Dangereuses par Route(European Agreement concerning the International Carriage of Dangerous Goods by road)
RID:Reglement International concernant le transport des marchandises dangereuses par chemin de fer (Regulations concerning the International transport of Dangerous Goods by Rail)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
IATA-DGR: Dangerous Goods Regulations by the International Air Transport Association
ICAO:International Civil Aviation Organization
ICAO-TI: Technical Instructions by the ICAO
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
CAS:Chemical Abstracts Service

3. Disclaimer

The product listed is for research and development purposes only and not for human or animal use. As such, in most cases, the toxicological, ecological and physicochemical properties have not been fully determined and the product should be treated with respect and always handled under suitable conditions by appropriately qualified personnel. The responsible party shall use this datasheet only in conjunction with other sources of information gathered by them, and should make an independent judgement of suitability, to ensure proper use and protect the health and safety of employees. This information is furnished without warranty and any use of the product not in conformance with this material safety data sheet, or in combination with any other product or process, is the responsibility of the user.