

Revision Date 15-Dec-2011

Revision Number 4

## SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

**Product Identifier**

**Product Description:** Ethyl 4-bromocrotonate  
**Cat No.** 118120000; 118120250; 118120050; 118121000

**Relevant identified uses of the substance or mixture and uses advised against**

**Recommended Use** Laboratory chemicals  
**Uses advised against** No Information available

**Details of the supplier of the safety data sheet**

**Company**

Acros Organics BVBA  
 Janssen Pharmaceuticaaan 3a  
 2440 Geel, Belgium

**E-mail address** begel.sdsdesk@thermofisher.com

**Emergency Telephone Number**

For information in the US, call: 001-800-ACROS-01  
 For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99  
 Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300  
 CHEMTREC Phone Number, Europe: 001-703-527-3887

## SECTION 2. HAZARDS IDENTIFICATION

**Classification of the substance or mixture**

**REGULATION (EC) No 1272/2008**

Skin Corrosion/irritation	Category 1 B
Serious Eye Damage/Eye Irritation	Category 1

**Classification according to EU Directives 67/548/EEC or 1999/45/EC**

*For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16*

**Symbol(s)** C - Corrosive  
**R-phrases(s)** R34 - Causes burns

**Label Elements**

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**SECTION 2. HAZARDS IDENTIFICATION**



**Signal Word**

**Danger**

**Hazard Statements**

H314 - Causes severe skin burns and eye damage

**Precautionary Statements - EU (§28, 1272/2008)**

P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting

P310 - Immediately call a POISON CENTER or doctor/ physician

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

P303 + P361 + P353 - IF ON SKIN (or hair): Remove/ Take off immediately all contaminated clothing. Rinse skin with water/ shower

**Other Hazards**

Lachrymator (substance which increases the flow of tears).

**SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS**

Component	EC-No.	Weight %	CAS-No	67/548/EEC Classification	CLP Classification - Regulation (EC) No 1272/2008	REACH No.
2-Butenoic acid, 4-bromo-, ethyl ester, (2E)- 37746-78-4		75	37746-78-4	C;R34	Skin Corr. 1B (H314) Eye Dam. 1 (H318)	-

**For the full text of the R-phrases and H-Statements mentioned in this Section, see Section 16**

**SECTION 4. FIRST AID MEASURES**

**Description of first aid measures**

**Eye Contact**

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician

**Skin Contact**

Wash off immediately with plenty of water for at least 15 minutes. Remove and wash contaminated clothing before re-use. Call a physician immediately.

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<b>Ingestion</b>	Do not induce vomiting. Clean mouth with water. Never give anything by mouth to an unconscious person. Call a physician immediately.
<b>Inhalation</b>	Remove from exposure, lie down. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Call a physician immediately.
<b>Notes to Physician</b>	Treat symptomatically

**SECTION 5. FIRE-FIGHTING MEASURES****Extinguishing media****Suitable Extinguishing Media**

Use extinguishing measures that are appropriate to local circumstances and the surrounding environment

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

No information available.

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

Thermal decomposition can lead to release of irritating gases and vapors. The product causes burns of eyes, skin and mucous membranes.

**Advice for fire-fighters**

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear

**SECTION 6. ACCIDENTAL RELEASE MEASURES****Personal precautions, protective equipment and emergency procedures**

Evacuate personnel to safe areas. Use personal protective equipment. Avoid contact with skin, eyes and inhalation of vapors..

Refer to protective measures listed in Sections 7 and 8.

**Environmental precautions**

Do not allow material to contaminate ground water system. Should not be released into the environment.

**Methods and material for containment and cleaning up**

Soak up with inert absorbent material. Sweep up and shovel into suitable containers for disposal.

**SECTION 7. HANDLING AND STORAGE****Precautions for Safe Handling**

Use only under a chemical fume hood. Wear personal protective equipment. Avoid breathing vapors or mists. Do not get in eyes, on skin, or on clothing. Do not ingest.

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**Conditions for safe storage, including any incompatibilities**

Corrosives area. Keep container tightly closed in a dry and well-ventilated place. Keep refrigerated.

**Specific End Uses****SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION****Control parameters****Exposure limits**

This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

**Biological limit values**

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

**Derived No Effect Level (DNEL)**

No information available.

**Predicted No Effect Concentration (PNEC)**

No information available.

**Exposure controls****Engineering Measures**

Use only under a chemical fume hood Ensure that eyewash stations and safety showers are close to the workstation location

**Personal protective equipment****Eye Protection**

Safety glasses with side-shields Goggles

**Hand Protection**

Protective gloves

**Skin and body protection**

Wear appropriate protective gloves and clothing to prevent skin exposure

**Respiratory Protection**

Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice

**Environmental exposure controls**

No information available.

**SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES****Physical State**

Liquid

**pH**

No information available.

**Vapor Density**

6.66

**Boiling Point/Range**

94 - 95°C / 201.2 - 203°F@ 12 mmHg

**Melting Point/Range**

No information available.

**Flash Point**

No information available.

**Autoignition Temperature**

No information available.

**Specific Gravity**

1.400

**Molecular Formula**

C6 H9 Br O2

**Molecular Weight**

193.04

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**SECTION 10. STABILITY AND REACTIVITY****Reactivity****Chemical Stability**

Stable under normal conditions.

**Possibility of Hazardous Reactions**

**Hazardous Polymerization** No information available  
**Hazardous Reactions .** No information available.

**Conditions to Avoid**

Incompatible products, Keep away from open flames, hot surfaces and sources of ignition, Excess heat.

**Incompatible Materials**

Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents.

**Hazardous Decomposition Products**Thermal decomposition can lead to release of irritating gases and vapors. Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>).**SECTION 11. TOXICOLOGICAL INFORMATION****Information on Toxicological Effects****Acute Toxicity**

**Product Information** No acute toxicity information is available for this product

**Component Information****Chronic Toxicity**

**Carcinogenicity** There are no known carcinogenic chemicals in this product

**Sensitization** No information available.  
**Mutagenic Effects** No information available  
**Reproductive Effects** No information available.  
**Developmental Effects** No information available.  
**Target Organs** No information available.  
**Endocrine Disruptor Information** None known

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**SECTION 12. ECOLOGICAL INFORMATION****Toxicity****Ecotoxicity effects**

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants

**Persistence and degradability**

No information available

**Bioaccumulative potential**

No information available.

**Mobility in soil**

No information available.

**Results of PBT and vPvB assessment****Other adverse effects**

No information available

**SECTION 13. DISPOSAL CONSIDERATIONS****Waste treatment methods****Waste from Residues / Unused Products**

Dispose of in accordance with local regulations

**Contaminated Packaging**

Empty containers should be taken to local recyclers for disposal

**SECTION 14. TRANSPORT INFORMATION****IMDG/IMO**

<b>UN-No</b>	UN3265
<b>Hazard Class</b>	8
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	Corrosive liquid, acidic, organic, n.o.s

**ADR**

<b>UN-No</b>	UN3265
<b>Hazard Class</b>	8
<b>Packing Group</b>	II
<b>Proper Shipping Name</b>	Corrosive liquid, acidic, organic, n.o.s

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**SECTION 14. TRANSPORT INFORMATION**IATA

UN-No	UN3265
Hazard Class	8
Packing Group	II
Proper Shipping Name	Corrosive liquid, acidic, organic, n.o.s

**SECTION 15. REGULATORY INFORMATION**Safety, health and environmental regulations/legislation specific for the substance or mixtureInternational InventoriesLegend

**TSCA** - United States Toxic Substances Control Act Section 8(b) Inventory  
**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances  
**DSL/NDSL** - Canadian Domestic Substances List/Non-Domestic Substances List  
**PICCS** - Philippines Inventory of Chemicals and Chemical Substances  
**ENCS** - Japan Existing and New Chemical Substances  
**CHINA** - China Inventory of Existing Chemical Substances  
**AICS** - Inventory of Chemical Substances  
**KECL** - Existing and Evaluated Chemical Substances

Chemical Safety Assessment**SECTION 16. OTHER INFORMATION**Full text of R-phrases referred to under sections 2 and 3

R34 - Causes burns

Revision Date	15-Dec-2011
Revision Summary	Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

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**SECTION 16. OTHER INFORMATION****Disclaimer**

The information provided on this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other material or in any process, unless specified in the text.

End of Safety Data Sheet