

Revision Date 24-Nov-2010

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Description: Crotyl alcohol
Cat No. 405790000; 405791000; 405795000
Synonyms 2-Buten-1-ol

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

Emergency Number, Europe: +32 14 57 52 99

Emergency Number, US: 201-796-7100

CHEMTREC Phone Number, US: 800-424-9300

CHEMTREC Phone Number, Europe: 703-527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 4
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Skin Corrosion / irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2A
Specific target organ systemic toxicity (single exposure)	Category 3
Flammable liquids.	Category 3

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

For the full text of the R phrases mentioned in this Section, see Section 16

Symbol(s) Xn - Harmful
R -phrase(s) R10 - Flammable
Risk Combination Phrases R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed
 R36/37/38 - Irritating to eyes, respiratory system and skin

2. HAZARDS IDENTIFICATION**Label Elements****Signal Word****Warning****Hazard Statements**

H302 - Harmful if swallowed
H312 - Harmful in contact with skin
H332 - Harmful if inhaled
H315 - Causes skin irritation
H335 - May cause respiratory irritation
H319 - Causes serious eye irritation
H226 - Flammable liquid and vapor

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

P280 - Wear protective gloves/protective clothing/eye protection/face protection
P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
P261 - Avoid breathing dust/fume/gas/mist/vapors/spray
P301 + P312 - IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
P304 + P340 - IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking

Other Hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS	REACH Reg. No.
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3. COMPOSITION/INFORMATION ON INGREDIENTS

Crotonyl alcohol 6117-91-5	EEC No. 228- 086-7	90	6117-91-5	R10 Xn; R20/21/22 Xi; R36/37/38;	STOT SE 3 (H335) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319) Acute Tox. 4 (H302) Acute Tox. 4 (H312) Acute Tox. 4 (H332)	-
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For the full text of the R phrases mentioned in this Section, see Section 16

4. FIRST AID MEASURES**Description of first aid measures****Eye Contact**

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes Obtain medical attention

Skin Contact

Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes Obtain medical attention

Ingestion

Clean mouth with water Get medical attention

Inhalation

Remove from exposure, lie down Move to fresh air If breathing is difficult, give oxygen If not breathing, give artificial respiration Obtain medical attention

Notes to Physician

Treat symptomatically

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

Water spray Carbon dioxide (CO₂) Dry chemical Use water spray to cool unopened containers chemical foam

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Flammable Vapors may travel to source of ignition and flash back Containers may explode when heated

Advice for fire-fighters

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

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

Ensure adequate ventilation

Environmental precautions

Prevent further leakage or spillage if safe to do so

Methods and material for containment and cleaning up

Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust) Keep in suitable and closed containers for disposal Remove all sources of ignition Use spark-proof tools and explosion-proof equipment Do not let this chemical enter the environment

7. HANDLING AND STORAGE

Precautions for Safe Handling

Avoid contact with skin and eyes Do not breathe dust Do not breathe vapors or spray mist Avoid contact with clothing Do not ingest Use explosion-proof equipment Use only non-sparking tools

Conditions for safe storage, including any incompatibilities

Keep in a dry, cool and well-ventilated place Keep container tightly closed Keep away from heat and sources of ignition Flammables area

Specific End Uses

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.

Derived No Effect Level (DNEL)

No information available.

Predicted No Effect Concentration (PNEC)

No information available.

Exposure controls

Engineering Measures

Use explosion-proof electrical/ventilating/lighting/equipment Ensure that eyewash stations and safety showers are close to the workstation location

Personal protective equipment

Eye Protection

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.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State

Liquid

Appearance

Light yellow

pH

No information available.

Vapor Pressure

No information available.

Vapor Density

No information available.

Boiling Point/Range

119 - 121°C / 246.2 - 249.8°F @ 760 mmHg

Melting Point/Range

No information available.

Flash Point

37°C / 98.6°F

Water Solubility

166 g/L (20°C)

Specific Gravity

0.850

Molecular Formula

C4 H8 O

9. PHYSICAL AND CHEMICAL PROPERTIES

Molecular Weight 72.11

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

Stable under normal conditions.

Possibility of Hazardous Reactions**Hazardous Polymerization**

Hazardous polymerization does not occur.

Hazardous Reactions .

No information available.

Conditions to Avoid

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

Incompatible Materials

Strong oxidizing agents, Strong acids, Strong reducing agents, Acid anhydrides, Acid chlorides.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO₂).

11. TOXICOLOGICAL INFORMATION**Information on Toxicological Effects****Acute Toxicity****Product Information**

No acute toxicity information is available for this product

Component Information**Component**

Crotonyl alcohol

LD50 Oral	LD50 Dermal	LC50 Inhalation
793 mg/kg (Rat)	1084 mg/kg (Rabbit)	

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.

Other Adverse Effects

The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information

Endocrine Disruptor Information

None known

12. ECOLOGICAL INFORMATION**Toxicity**

12. ECOLOGICAL INFORMATION

Ecotoxicity effects

Do not empty into drains

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

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 for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

IMDG/IMO

UN-No	1987
Hazard Class	3
Packing Group	III
Proper Shipping Name	ALCOHOLS, N.O.S.

ADR

UN-No	1987
Hazard Class	3
Packing Group	III
Proper Shipping Name	ALCOHOLS, N.O.S.

IATA

UN-No	1987
Hazard Class	3
Packing Group	III
Proper Shipping Name	ALCOHOLS, N.O.S.*

15. REGULATORY INFORMATION

Safety, health and environmental regulations/legislation specific for the substance or mixture**International Inventories**

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
Crotonyl alcohol	228-086-7	-		X	-	X	X	-	X	X	KE-04108 X

Legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory Lists

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**16. OTHER INFORMATION****Text of R phrases mentioned in Section 2-3**

R10 - Flammable

R20/21/22 - Harmful by inhalation, in contact with skin and if swallowed

R36/37/38 - Irritating to eyes, respiratory system and skin

Revision Date 24-Nov-2010

Revision Summary Not applicable

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

Disclaimer

The information provided on this SDS 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