

Revision Date 23-Dec-2010

Revision Number 3

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Description: 5-Ethylidene-2-norbornene, mixt. of endo- and exo-isomers, stabilized
Cat No. 166010000; 166010050; 166015000
Synonyms Ethylidene norborne; 2-Norbornene, 5-ethylidene-; 5-Ethylidenebicyclo (2.2.1)hept-2-ene

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

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute Inhalation Toxicity - Vapors	Category 3
Skin Corrosion / irritation	Category 2
Serious Eye Damage/Eye Irritation	Category 2
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
 R20 - Harmful by inhalation
Risk Combination Phrases R36/38 - Irritating to eyes and skin

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2. HAZARDS IDENTIFICATION

Label Elements



Signal Word

Danger

Hazard Statements

H331 - Toxic if inhaled
H315 - Causes skin irritation
H319 - Causes serious eye irritation
H226 - Flammable liquid and vapor

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

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
P260 - Do not breathe dust/fume/gas/mist/vapors/spray

Other Hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS	REACH Reg. No.
Ethylidene norbornene 16219-75-3	EEC No. 240-347-7	>95	16219-75-3	R10; Xi;R36/38 Xn;R20	Flam Liq. 3 (H226) Acute Tox. 3 (H331) Skin Irrit. 2 (H315) Eye Irrit. 2 (H319)	-

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

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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 Immediate medical attention is required
Skin Contact	Wash off immediately with plenty of water for at least 15 minutes Immediate medical attention is required
Ingestion	Do not induce vomiting Call a physician or Poison Control Center immediately
Inhalation	Move to fresh air 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 Immediate medical attention is required
Notes to Physician	Treat symptomatically

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide
Cool closed containers exposed to fire with water spray

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Flammable
Containers may explode when heated
Vapors may form explosive mixtures with air
Vapors may travel to source of ignition and flash back

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear
Thermal decomposition can lead to release of irritating gases and vapors

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions

Should not be released into the environment.

Methods and material for containment and cleaning up

Soak up with inert absorbent material. Keep in suitable and closed containers for disposal. Remove all sources of ignition. Use spark-proof tools and explosion-proof equipment.

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7. HANDLING AND STORAGE

Precautions for Safe Handling

Use only under a chemical fume hood Wear personal protective equipment Do not get in eyes, on skin, or on clothing Avoid ingestion and inhalation Keep away from open flames, hot surfaces and sources of ignition Use only non-sparking tools Use explosion-proof equipment Take precautionary measures against static discharges

Conditions for safe storage, including any incompatibilities

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

Specific End Uses

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters
Exposure limits
Component

Ethylidene norbornene

European Union	The United Kingdom	France	Belgium	Spain
		VLCT: 25 mg/m ³ VLCT: 5 ppm		VLA-EC: 25 mg/m ³ VLA-EC: 5 ppm

Component

Ethylidene norbornene

Italy	Portugal	The Netherlands	Finland	Denmark
	Ceiling: 5 ppm		STEL: 5 ppm STEL: 25 mg/m ³	Ceiling: 5 ppm Ceiling: 25 mg/m ³

Component

Ethylidene norbornene

Austria	Switzerland	Poland	Norway	Ireland
STEL: 25 mg/m ³ STEL: 5 ppm MAK: 25 mg/m ³ MAK: 5 ppm Ceiling: 25 mg/m ³ Ceiling: 5 ppm	MAK: 25 mg/m ³ MAK: 5 ppm		Ceiling: 25 mg/m ³ Ceiling: 5 ppm	

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 Use explosion-proof electrical/ventilating/lighting/equipment

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

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Environmental exposure controls No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Liquid
Appearance	Light yellow
odor	Petroleum distillates
pH	No information available.
Vapor Pressure	4.6 mmHg @ 20 °C
Vapor Density	4.14
Boiling Point/Range	146°C / 294.8°F @ 50 mmHg
Melting Point/Range	-80°C / -112°F
Flash Point	38°C / 100.4°F
Explosion Limits	
Lower	0.9 vol%
Upper	6.4 vol%
Specific Gravity	0.890
Molecular Formula	C9 H12
Molecular Weight	120.19

10. STABILITY AND REACTIVITY

Reactivity
Chemical Stability

Stable under normal conditions.

Possibility of Hazardous Reactions
Hazardous Polymerization

Hazardous polymerization does not occur.

Hazardous Reactions .

None under normal processing..

Conditions to Avoid

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

Incompatible Materials

Strong oxidizing agents.

Hazardous Decomposition Products

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

11. TOXICOLOGICAL INFORMATION

Information on Toxicological Effects
Acute Toxicity
Product Information

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11. TOXICOLOGICAL INFORMATION

Component Information

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Ethylidene norbornene	2.8 mg/kg (Rat)	5.66 mL/kg (Rabbit)	1246 ppm (Rat) 4 h

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 None known.
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

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

Component	Freshwater Algae	Freshwater Fish	Microtox	Water Flea
Ethylidene norbornene		9.21 mg/L LC50 48 h		

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

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13. DISPOSAL CONSIDERATIONS
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	UN1992
Hazard Class	3
Subsidiary Hazard Class	6.1
Packing Group	III
Proper Shipping Name	Flammable liquid, toxic, n.o.s

ADR

UN-No	UN1992
Hazard Class	3
Subsidiary Class	6.1
Packing Group	III
Proper Shipping Name	Flammable liquid, toxic, n.o.s

IATA

UN-No	UN1992
Hazard Class	3
Subsidiary Hazard Class	6.1
Packing Group	III
Proper Shipping Name	Flammable liquid, toxic, 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
Ethylidene norbornene	240-347-7	-		X	-	X	X	X	X	X	KE-13889 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

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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 - Harmful by inhalation

R36/38 - Irritating to eyes and skin

Revision Date 23-Dec-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