



# SAFETY DATA SHEET

Creation Date 18-Jun-2018

Revision Date 18-Jun-2018

Revision Number 4

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

### 1.1. Product identification

Product Description:	<b>Isopropyl glycidyl ether</b>
Cat No. :	<b>240660000</b>
Synonyms	1(Methylethoxy)-methyloxirane
CAS-No	4016-14-2
EC-No.	223-672-9
Molecular Formula	C6 H12 O2
Reach Registration Number	01-2120763552-53

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

Recommended Use	Laboratory chemicals.
Sector of use	SU3 - Industrial uses: Uses of substances as such or in preparations at industrial sites
Product category	PC21 - Laboratory chemicals
Process categories	PROC15 - Use as a laboratory reagent
Environmental release category	ERC6a - Industrial use resulting in manufacture of another substance (use of intermediates)
Uses advised against	No Information available

### 1.3. 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

### 1.4. Emergency telephone number

For information **US** call: 001-800-ACROS-01 / **Europe** call: +32 14 57 52 11  
Emergency Number **US**:001-201-796-7100 / **Europe**: +32 14 57 52 99  
**CHEMTREC** Tel. No.**US**:001-800-424-9300 / **Europe**:001-703-527-3887

## SECTION 2: HAZARDS IDENTIFICATION

### 2.1. Classification of the substance or mixture

#### CLP Classification - Regulation (EC) No 1272/2008

##### Physical hazards

Flammable liquids	Category 3 (H226)
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##### Health hazards

Acute oral toxicity	Category 4 (H302)
Acute Inhalation Toxicity - Vapors	Category 3 (H331)
Skin Corrosion/irritation	Category 2 (H315)
Serious Eye Damage/Eye Irritation	Category 2 (H319)
Reproductive Toxicity	Category 2 (H361)

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## Environmental hazards

Chronic aquatic toxicity

Category 3 (H412)

## 2.2. Label elements



Signal Word

Danger

## Hazard Statements

H226 - Flammable liquid and vapor  
H302 - Harmful if swallowed  
H331 - Toxic if inhaled  
H315 - Causes skin irritation  
H319 - Causes serious eye irritation  
H361 - Suspected of damaging fertility or the unborn child  
H412 - Harmful to aquatic life with long lasting effects  
EUH019 - May form explosive peroxides

## Precautionary Statements

P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking  
P301 + P330 + P331 - IF SWALLOWED: rinse mouth. Do NOT induce vomiting  
P264 - Wash face, hands and any exposed skin thoroughly after handling  
P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing  
P311 - Call a POISON CENTER or doctor/ physician  
P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection

## 2.3. Other hazards

No information available

## SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

### 3.1. Substances

Component	CAS-No	EC-No.	Weight %	CLP Classification - Regulation (EC) No 1272/2008
Isopropyl glycidyl ether (IGE)	4016-14-2	EEC No. 223-672-9	>95	Flam Liq. 3 (H226) Acute Tox. 4 (H302) Acute Tox. 3 (H331) Skin Irrit. 2(H315) Eye Irrit. 2(H319) Repr. 2 (H361) Aquatic Chronic 3(H412) (EUH019)

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Full text of Hazard Statements: see section 16

## SECTION 4: FIRST AID MEASURES

### 4.1. Description of first aid measures

<b>General Advice</b>	Show this safety data sheet to the doctor in attendance. Immediate medical attention is required.
<b>Eye Contact</b>	Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
<b>Skin Contact</b>	Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.
<b>Ingestion</b>	Do not induce vomiting. Call a physician or Poison Control Center immediately.
<b>Inhalation</b>	Move to fresh air. If not breathing, give artificial respiration. Do not use mouth-to-mouth method if victim ingested or inhaled the substance; give artificial respiration with the aid of a pocket mask equipped with a one-way valve or other proper respiratory medical device. Immediate medical attention is required.
<b>Self-Protection of the First Aider</b>	Ensure that medical personnel are aware of the material(s) involved, take precautions to protect themselves and prevent spread of contamination.

### 4.2. Most important symptoms and effects, both acute and delayed

Breathing difficulties. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting; Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

### 4.3. Indication of any immediate medical attention and special treatment needed

**Notes to Physician** Treat symptomatically.

## SECTION 5: FIREFIGHTING MEASURES

### 5.1. Extinguishing media

#### Suitable Extinguishing Media

Water spray. Carbon dioxide (CO<sub>2</sub>). Dry chemical. Chemical foam. Cool closed containers exposed to fire with water spray.

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

No information available.

### 5.2. 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.

#### Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO<sub>2</sub>), Hydrogen chloride.

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## **5.3. Advice for firefighters**

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.

## **SECTION 6: ACCIDENTAL RELEASE MEASURES**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Remove all sources of ignition. Take precautionary measures against static discharges.

### **6.2. Environmental precautions**

Should not be released into the environment. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage. Do not flush into surface water or sanitary sewer system.

### **6.3. Methods and material for containment and cleaning up**

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

### **6.4. Reference to other sections**

Refer to protective measures listed in Sections 8 and 13.

## **SECTION 7: HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Wear personal protective equipment. Do not get in eyes, on skin, or on clothing. Use only under a chemical fume hood. Do not breathe vapors or spray mist. Do not ingest. If peroxide formation is suspected, do not open or move container. Keep away from open flames, hot surfaces and sources of ignition. Use only non-sparking tools. Take precautionary measures against static discharges.

### **Hygiene Measures**

Handle in accordance with good industrial hygiene and safety practice. Keep away from food, drink and animal feeding stuffs. Do not eat, drink or smoke when using this product. Remove and wash contaminated clothing before re-use. Wash hands before breaks and at the end of workday.

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

Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Flammables area. Containers should be dated when opened and tested periodically for the presence of peroxides. Should crystals form in a peroxidizable liquid, peroxidation may have occurred and the product should be considered extremely dangerous. In this instance, the container should only be opened remotely by professionals. Keep container tightly closed in a dry and well-ventilated place. Keep away from heat and sources of ignition.

### **7.3. Specific end use(s)**

Use in laboratories

## **SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION**

### **8.1. Control parameters**

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## Exposure limits

List source(s): **IRE** - 2010 Code of Practice for the Safety, Health and Welfare at Work (Chemical Agents) Regulations 2001.  
Published by the Health and Safety Authority.

Component	The United Kingdom	European Union	Ireland
Isopropyl glycidyl ether (IGE)			TWA: 50 ppm 8 hr. TWA: 240 mg/m <sup>3</sup> 8 hr. STEL: 75 ppm 15 min STEL: 360 mg/m <sup>3</sup> 15 min

## Biological limit values

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

## Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.

MDHS70 General methods for sampling airborne gases and vapours

MDHS 88 Volatile organic compounds in air. Laboratory method using diffusive samplers, solvent desorption and gas chromatography

MDHS 96 Volatile organic compounds in air - Laboratory method using pumped solid sorbent tubes, solvent desorption and gas chromatography

**Derived No Effect Level (DNEL)** See values below

Route of exposure	Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Oral				
Dermal		0.156 mg/kg bw/d		
Inhalation				1.1 mg/m <sup>3</sup>

**Predicted No Effect Concentration (PNEC)** See values below.

Fresh water	0.033 mg/L
Fresh water sediment	0.142 mg/kg
Marine water	0.0033 mg/L
Marine water sediment	0.014 mg/kg

## 8.2. Exposure controls

### Engineering Measures

Ensure adequate ventilation, especially in confined areas. Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location.

Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source

### Personal protective equipment

**Eye Protection** Goggles (European standard - EN 166)

**Hand Protection** Protective gloves

Glove material	Breakthrough time	Glove thickness	EU standard	Glove comments
Nitrile rubber	See manufacturers recommendations	-	EN 374	(minimum requirement)
Neoprene				
Natural rubber				
PVC				

**Skin and body protection** Long sleeved clothing

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Inspect gloves before use.

Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves.

(Refer to manufacturer/supplier for information)

Ensure gloves are suitable for the task: Chemical compatability, Dexterity, Operational conditions, User susceptibility, e.g.

sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion.

Remove gloves with care avoiding skin contamination.

## Respiratory Protection

When workers are facing concentrations above the exposure limit they must use appropriate certified respirators.

To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

## Large scale/emergency use

Use a NIOSH/MSHA or European Standard EN 136 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

**Recommended Filter type:** Organic gases and vapours filter Type A Brown conforming to EN14387

## Small scale/Laboratory use

Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced.

**Recommended half mask:-** Valve filtering: EN405; or; Half mask: EN140; plus filter, EN 141

When RPE is used a face piece Fit Test should be conducted

## Environmental exposure controls

Prevent product from entering drains.

## SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

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

Appearance	Colorless	
Physical State	Liquid	
Odor	Slight ethereal	
Odor Threshold	No data available	
pH	7	188 g/l aq.sol
Melting Point/Range	No data available	
Softening Point	No data available	
Boiling Point/Range	137 °C / 278.6 °F	@ 760 mmHg
Flash Point	33 °C / 91.4 °F	<b>Method -</b> No information available
Evaporation Rate	No data available	
Flammability (solid,gas)	Not applicable	Liquid
Explosion Limits	No data available	
Vapor Pressure	12.5 mbar	
Vapor Density	4.15	(Air = 1.0)
Specific Gravity / Density	0.920	
Bulk Density	Not applicable	Liquid
Water Solubility	180 g/l water (20°C)	
Solubility in other solvents	No information available	
Partition Coefficient (n-octanol/water)		
Component	<b>log Pow</b>	
Isopropyl glycidyl ether (IGE)	0.8	
Autoignition Temperature	No data available	
Decomposition Temperature	No data available	
Viscosity	0.5-1.0 mPa.s at 20 °C	
Explosive Properties	No information available	explosive air/vapour mixtures possible
Oxidizing Properties	No information available	

### 9.2. Other information

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Molecular Formula C6 H12 O2  
Molecular Weight 116.16

## SECTION 10: STABILITY AND REACTIVITY

**10.1. Reactivity**  
None known, based on information available

**10.2. Chemical stability**  
May form explosive peroxides.

### 10.3. Possibility of hazardous reactions

Hazardous Polymerization No information available.  
Hazardous Reactions None under normal processing.

**10.4. Conditions to avoid**  
Incompatible products. Keep away from open flames, hot surfaces and sources of ignition.

**10.5. Incompatible materials**  
Amines. Strong acids. Alkaline. Oxidizing agents.

**10.6. Hazardous decomposition products**  
Carbon monoxide (CO). Carbon dioxide (CO<sub>2</sub>). Hydrogen chloride.

## SECTION 11: TOXICOLOGICAL INFORMATION

### 11.1. Information on toxicological effects

#### Product Information

(a) acute toxicity;  
Oral Category 4  
Dermal Based on available data, the classification criteria are not met  
Inhalation Category 3

Component	LD50 Oral	LD50 Dermal	LC50 Inhalation
Isopropyl glycidyl ether (IGE)	LD50 = 4200 mg/kg (Rat) LD50 = 1300 mg/kg (Mouse)	LD50 = 9650 mg/kg (Rabbit)	LC50 = 1100 ppm (Rat) 8 h

(b) skin corrosion/irritation; Category 2

(c) serious eye damage/irritation; Category 2

(d) respiratory or skin sensitization;  
Respiratory Based on available data, the classification criteria are not met  
Skin Based on available data, the classification criteria are not met  
No information available

(e) germ cell mutagenicity; Based on available data, the classification criteria are not met

(f) carcinogenicity; Based on available data, the classification criteria are not met  
The table below indicates whether each agency has listed any ingredient as a carcinogen

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Component	EU	UK	Germany	IARC
Isopropyl glycidyl ether (IGE)			Cat. 3B	

(g) reproductive toxicity; Category 2

(h) STOT-single exposure; Based on available data, the classification criteria are not met

(i) STOT-repeated exposure; Based on available data, the classification criteria are not met

Target Organs None known.

(j) aspiration hazard; Based on available data, the classification criteria are not met

**Symptoms / effects, both acute and delayed** Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting: Symptoms of allergic reaction may include rash, itching, swelling, trouble breathing, tingling of the hands and feet, dizziness, lightheadedness, chest pain, muscle pain or flushing

## SECTION 12: ECOLOGICAL INFORMATION

### 12.1. Toxicity

#### Ecotoxicity effects

Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. The product contains following substances which are hazardous for the environment.

Component	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
Isopropyl glycidyl ether (IGE)	LC50: 71 mg/l/96H (Rainbow trout)			

### 12.2. Persistence and degradability

#### Persistence

Not readily biodegradable

#### Degradation in sewage treatment plant

Persistence is unlikely.

Contains substances known to be hazardous to the environment or not degradable in waste water treatment plants.

### 12.3. Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
Isopropyl glycidyl ether (IGE)	0.8	No data available

### 12.4. Mobility in soil

The product is water soluble, and may spread in water systems. Will likely be mobile in the environment due to its water solubility. Highly mobile in soils

### 12.5. Results of PBT and vPvB assessment

No data available for assessment.

### 12.6. Other adverse effects

#### Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors

#### Persistent Organic Pollutant

This product does not contain any known or suspected substance

#### Ozone Depletion Potential

This product does not contain any known or suspected substance

## SECTION 13: DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

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## Waste from Residues / Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

## Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

## European Waste Catalogue (EWC)

According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

## Other Information

Waste codes should be assigned by the user based on the application for which the product was used. Do not dispose of waste into sewer. Can be incinerated, when in compliance with local regulations. Do not let this chemical enter the environment. Do not empty into drains.

## SECTION 14: TRANSPORT INFORMATION

### IMDG/IMO

14.1. UN number	UN2929
14.2. UN proper shipping name	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S
14.3. Transport hazard class(es)	6.1
Subsidiary Hazard Class	3
14.4. Packing group	II

### ADR

14.1. UN number	UN2929
14.2. UN proper shipping name	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S
14.3. Transport hazard class(es)	6.1
Subsidiary Hazard Class	3
14.4. Packing group	II

### IATA

14.1. UN number	UN2929
14.2. UN proper shipping name	TOXIC LIQUID, FLAMMABLE, ORGANIC, N.O.S
14.3. Transport hazard class(es)	6.1
Subsidiary Hazard Class	3
14.4. Packing group	II

14.5. Environmental hazards No hazards identified

14.6. Special precautions for user No special precautions required

14.7. Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable, packaged goods

## SECTION 15: REGULATORY INFORMATION

### 15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed.

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	IECSC	AICS	KECL
Isopropyl glycidyl ether (IGE)	223-672-9	-		X	-	-	X	-	-	-	X

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## National Regulations

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment.

Take note of Dir 94/33/EC on the protection of young people at work

Take note of Dir 92/85/EC on the protection of pregnant and breastfeeding women at work

## 15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

## SECTION 16: OTHER INFORMATION

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

H302 - Harmful if swallowed

H331 - Toxic if inhaled

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H361 - Suspected of damaging fertility or the unborn child

H412 - Harmful to aquatic life with long lasting effects

EUH019 - May form explosive peroxides

H226 - Flammable liquid and vapor

### Legend

**CAS** - Chemical Abstracts Service

**EINECS/ELINCS** - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances

**PICCS** - Philippines Inventory of Chemicals and Chemical Substances

**IECSC** - Chinese Inventory of Existing Chemical Substances

**KECL** - Korean Existing and Evaluated Chemical Substances

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

**DSL/NDL** - Canadian Domestic Substances List/Non-Domestic Substances List

**ENCS** - Japanese Existing and New Chemical Substances

**AICS** - Australian Inventory of Chemical Substances

**NZIoC** - New Zealand Inventory of Chemicals

**WEL** - Workplace Exposure Limit

**ACGIH** - American Conference of Governmental Industrial Hygienists

**DNEL** - Derived No Effect Level

**RPE** - Respiratory Protective Equipment

**LC50** - Lethal Concentration 50%

**NOEC** - No Observed Effect Concentration

**PBT** - Persistent, Bioaccumulative, Toxic

**TWA** - Time Weighted Average

**IARC** - International Agency for Research on Cancer

**PNEC** - Predicted No Effect Concentration

**LD50** - Lethal Dose 50%

**EC50** - Effective Concentration 50%

**POW** - Partition coefficient Octanol:Water

**vPvB** - very Persistent, very Bioaccumulative

**ADR** - European Agreement Concerning the International Carriage of Dangerous Goods by Road

**IMO/IMDG** - International Maritime Organization/International Maritime Dangerous Goods Code

**OECD** - Organisation for Economic Co-operation and Development

**BCF** - Bioconcentration factor

### Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

**ICAO/IATA** - International Civil Aviation Organization/International Air Transport Association

**MARPOL** - International Convention for the Prevention of Pollution from Ships

**ATE** - Acute Toxicity Estimate

**VOC** - Volatile Organic Compounds

## Training Advice

Chemical hazard awareness training, incorporating labelling, Safety Data Sheets (SDS), Personal Protective Equipment (PPE) and hygiene.

Use of personal protective equipment, covering appropriate selection, compatibility, breakthrough thresholds, care, maintenance, fit and standards.

First aid for chemical exposure, including the use of eye wash and safety showers.

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## Disclaimer

The information provided in 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 guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered 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 materials or in any process, unless specified in the text

## End of Safety Data Sheet