

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

Product Identifier

Product Description: Ethylene glycol diacetate
Cat No. : 176220000; 176220025; 176225000; 176220100
Synonyms Ethanediol diacetate; Ethylene diacetate
CAS No 111-55-7
Molecular Formula C6 H10 O4

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

Importer	Supplier
Fisher Scientific Korea	Acros Organics BVBA
D5,D6, Incheon Airport Logistics Complex	Janssen Pharmaceuticaaan 3a
150, Gonghangdong-Ro Mapo-Gu 296 Beon-Gil	2440 Geel, Belgium
Jung-Gu, Incheon 400-340	
Tel: +82-2-6196-5500	
Fax: +82-2-6196-5501	

E-mail address Chem.KR@thermofisher.com

Emergency Telephone Number

Emergency telephone: Medical: +(82) 070-7686-0086 or + 1-703-741-5970
CHEMTREC: 1-800-424-9300 or + 1-703-527-3887
Korea: 00-308-13-2549 (24 hours a day, 7 days a week)

SECTION 2: HAZARDS IDENTIFICATION

Classification of the substance or mixture

Physical hazards

Flammable liquids

Category 4

Health hazards

Based on available data, the classification criteria are not met

Environmental hazards

Based on available data, the classification criteria are not met

Label Elements

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Signal Word

Warning

Hazard Statements

H227 - Combustible liquid

Precautionary Statements

Prevention

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking

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

Response

P370 + P378 - In case of fire: Use dry sand, dry chemical or alcohol-resistant foam for extinction

Storage

P403 - Store in a well-ventilated place

Disposal

P501 - Dispose of contents/container to industrial incineration plant

Other Hazards

NFPA

Health
0

Flammability
2

Instability
0

Physical hazards
N/A

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

3.1. Substances

Component	Common Name	CAS No	Index No	Weight %
1,2-Ethanediol, diacetate	Ethanediol diacetate; Ethylene diacetate	111-55-7	KE-13170	99 - 100

SECTION 4: FIRST AID MEASURES

Description of first aid measures

General Advice

If symptoms persist, call a physician. Show this safety data sheet to the doctor in attendance.

Eye Contact

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

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Get medical attention immediately if symptoms occur.

Ingestion

Clean mouth with water and drink afterwards plenty of water. Get medical attention if symptoms occur.

Inhalation

Remove to fresh air. Get medical attention immediately if symptoms occur.

Self-Protection of the First Aider

No special precautions required.

Most important symptoms and effects, both acute and delayed

Difficulty in breathing. Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

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Indication of any immediate medical attention and special treatment needed

Notes to Physician Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

Water spray, carbon dioxide (CO₂), dry chemical, alcohol-resistant foam. Water mist may be used to cool closed containers.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Keep product and empty container away from heat and sources of ignition. Risk of ignition. Combustible material. Containers may explode when heated.

Hazardous Combustion Products

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

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

Use personal protective equipment as required. Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.

Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional Ecological Information.

Methods and Material for Containment and Cleaning Up

Sweep up and shovel into suitable containers for disposal. Remove all sources of ignition.

Reference to Other Sections

Refer to protective measures listed in Sections 8 and 13.

SECTION 7: HANDLING AND STORAGE

Precautions for Safe Handling

Wear personal protective equipment/face protection. Ensure adequate ventilation. Avoid contact with skin, eyes or clothing. Avoid ingestion and inhalation. Keep away from open flames, hot surfaces and sources of ignition.

Conditions for Safe Storage, Including any Incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Keep away from heat, sparks and flame.

Specific End Uses

Use in laboratories.

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

Control Parameters

Component	CAS No	Korea	ACGIH TLV	OSHA PEL
1,2-Ethanediol, diacetate	111-55-7	Not listed	Not listed	Not listed

Component	CAS No	European Union	The United Kingdom	Germany
1,2-Ethanediol, diacetate	111-55-7	Not listed	Not listed	Not listed

Biological Exposure Indices

Component	CAS No	Biological Exposure Indices
1,2-Ethanediol, diacetate	111-55-7	Not listed

Exposure Controls

Engineering Measures

None under normal use conditions. Ensure adequate ventilation, especially in confined areas.

Personal protective equipment

Eye Protection

Wear safety glasses with side shields (or goggles)

Hand Protection

Protective gloves

Skin and body protection

Wear appropriate protective gloves and clothing to prevent skin exposure
Chemical resistant apron
Antistatic boots
Impervious gloves

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 compatibility, 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.

Personal protective equipment

Use only those certified by the Korea Occupational Safety and Health Administration.

Respiratory Protection

No protective equipment is needed under normal use conditions

Recommended Filter type:

Particle filter

Hygiene Measures

When using do not eat, drink or smoke
Provide regular cleaning of equipment, work area and clothing

Environmental exposure controls

Prevent product from entering drains

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance (Physical State, Color, etc.) Colorless Liquid

Odor

vinegar-like

Odor Threshold

No data available

pH

No information available

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Melting Point/Range -41 °C / -41.8 °F
Softening Point No data available
Boiling Point/Range 186 - 187 °C / 366.8 - 368.6 °F
Flash Point 82 °C / 179.6 °F **Method** - No information available

Evaporation Rate No data available
Flammability (solid,gas) Not applicable Liquid
Explosion Limits
Lower 1.6 Vol%
Upper 8.4 Vol%

Vapor Pressure 0.32 mbar @ 20 °C
Vapor Density 5.04 (Air = 1.0)
Specific Gravity / Density 1.120
Bulk Density Not applicable Liquid
Water Solubility 160 g/L (20°C)
Solubility in other solvents No information available

Partition Coefficient (n-octanol/water)

Component	CAS No	log Pow
1,2-Ethanediol, diacetate	111-55-7	0.1

Autoignition Temperature 481 - °C / 897.8 - °F
Decomposition Temperature No data available
Viscosity 2.58 cst at 20 °C
Explosive Properties explosive air/vapour mixtures possible
Oxidizing Properties No information available

Molecular Formula C6 H10 O4
Molecular Weight 146.14

SECTION 10: STABILITY AND REACTIVITY

Reactivity None known, based on information available

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. Strong acids. Strong bases. Strong reducing agents.

Hazardous Decomposition Products

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

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SECTION 11: TOXICOLOGICAL INFORMATION

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Product Information No acute toxicity information is available for this product

Information on expected route of exposure

Inhalation May cause irritation of respiratory tract.
Ingestion Ingestion may cause irritation to mucous membranes.
Eyes Contact with eyes may cause irritation.
Skin May cause eye/skin irritation.

Information on Health Hazards

(a) acute toxicity;

Oral Based on available data, the classification criteria are not met
Dermal Based on available data, the classification criteria are not met
Inhalation Based on available data, the classification criteria are not met

Component	CAS No	LD50 Oral	LD50 Dermal	LC50 Inhalation
1,2-Ethanediol, diacetate	111-55-7	6850 mg/kg (Rat)	8480 mg/kg (Rabbit)	No data available

(b) skin corrosion/irritation; No data available

(c) serious eye damage/irritation; No data available

(d) respiratory or skin sensitization;

Respiratory No data available
Skin No data available

Component	CAS No	Test method	Test species	Study result
1,2-Ethanediol, diacetate	111-55-7	No data available	No data available	No data available

(e) germ cell mutagenicity; No data available

Component	CAS No	Test method	Test species	Study result
1,2-Ethanediol, diacetate	111-55-7	No data available	No data available	No data available

(f) carcinogenicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
1,2-Ethanediol, diacetate	111-55-7	No data available	No data available	No data available

There are no known carcinogenic chemicals in this product

Component	CAS No	IARC	NTP	ACGIH	OSHA	UK
1,2-Ethanediol, diacetate	111-55-7	Not listed	Not listed	Not listed	Not listed	Not listed

(g) reproductive toxicity; No data available

Component	CAS No	Test method	Test species / Duration	Study result
1,2-Ethanediol, diacetate	111-55-7	No data available	No data available	No data available

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- (h) STOT-single exposure; No data available
- (i) STOT-repeated exposure; No data available
- Target Organs No information available.
- (j) aspiration hazard; No data available

Other Adverse Effects

Symptoms of overexposure may be headache, dizziness, tiredness, nausea and vomiting.

Component	CAS No	EU - Endocrine Disruptors Candidate List	EU - Endocrine Disruptors - Evaluated Substances	Japan - Endocrine Disruptor Information
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

SECTION 12: ECOLOGICAL INFORMATION

Ecotoxicity effects

Contains a substance which is: Harmful to aquatic organisms. The product contains following substances which are hazardous for the environment.

Component	CAS No	Freshwater Fish	Water Flea	Freshwater Algae	Microtox
1,2-Ethanediol, diacetate	111-55-7	LC50: = 90 mg/L, 96h static (Lepomis macrochirus)	No data available	No data available	No data available

Persistence and degradability

Persistence

Soluble in water, Persistence is unlikely, based on information available.

Degradation in sewage treatment plant

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

Bioaccumulative potential

Bioaccumulation is unlikely

Component	log Pow	Bioconcentration factor (BCF)
1,2-Ethanediol, diacetate	0.1	No data available

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.

Ozone Depletion Potential

Component	CAS No	Ozone Depletion Potential
1,2-Ethanediol, diacetate	111-55-7	Not listed

Other adverse effects

No information available

SECTION 13: DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues/Unused Products

Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.

Contaminated Packaging

Empty containers should be taken to an approved waste handling site for recycling or disposal.

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Other Information Do not flush to sewer.

SECTION 14: TRANSPORT INFORMATION

Road and Rail Transport Not Regulated

IATA Not regulated

IMDG/IMO Not regulated
Marine Pollutant No hazards identified

Special Precautions for User No special precautions required

SECTION 15: REGULATORY INFORMATION

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

Legend: X - Listed '-' - Not Listed

International Inventories

Component	CAS No	KECL	TSCA	EINECS	IECSC	DSL	NDSL	PICCS	ENCS	ISHL	AICS
1,2-Ethanediol, diacetate	111-55-7	KE-13170	X	203-881-1	X	X	-	X	X	X	X

Component	CAS No	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Major Accident Notification	Seveso III Directive (2012/18/EC) - Qualifying Quantities for Safety Report Requirements	Rotterdam Convention (PIC)	Basel Convention (Hazardous Waste)
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable	Not applicable

Component	CAS No	OECD HPV	Persistent Organic Pollutant	Ozone Depletion Potential
1,2-Ethanediol, diacetate	111-55-7	Listed	Not applicable	Not applicable

Korean National Regulations

Component	CAS No	Act on Registration and Evaluation of Chemical Substances (K-REACH)	Authorised Chemicals	Existing Substances Subject to Registration
1,2-Ethanediol, diacetate	111-55-7	Annex 1 - KE-13170	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Toxic Chemicals	Chemical Control Act - Prohibited Chemicals	Chemical Control Act - Use Restricted Chemicals
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

Component	CAS No	Chemical Control Act - Accident Precaution Chemicals (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Storage (% in mixtures)	Chemical Control Act - Accident Precaution Chemicals - Quantity limits Manufacture/Use (% in mixtures)
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

Component	CAS No	Waste Control Law	Ministry of Environment - CMR risk	Ministry of Environment - Critically Controlled Substance
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

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Component	CAS No	ISHA - Harmful Agents Subject to Work Environment Monitoring	ISHA - Prohibited substances	ISHA - Substances requiring permission
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Substances subject to control	ISHA - Harmful Agents Requiring Health Examination	ISHA - Permissible Exposure Limits
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

Component	CAS No	ISHA - Subject to Process Safety Reports (minimum quantity)	ISHA - Threshold Limit Values (TLVs) Chemicals	ISHA - Special management materials
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

National Fire Association - Dangerous Substances Minimum quantity requiring a permit

Component	CAS No	Class 1 - Oxidising solids	Class 2 - Flammable solid	Class 3 - Spontaneously Combustible Substances and Dangerous Substances When Wet	Class 4 - Flammable liquids	Class 5 - Self-reactive substances	Class 6 - Oxidising liquids
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable	5. Group 3 Petroleum (Insoluble) 2000 L	Not applicable	Not applicable

Control Parameters

Component	CAS No	Korea	Biological Exposure Indices
1,2-Ethanediol, diacetate	111-55-7	Not listed	Not listed

US Management Information

OSHA - Occupational Safety and Health Administration

Not applicable

Component	CAS No	Specifically Regulated Chemicals	Highly Hazardous Chemicals
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable

CERCLA Not applicable

Component	CAS No	CERCLA EHS RQs	Hazardous Substances RQs	SARA 313 - Threshold Values %
1,2-Ethanediol, diacetate	111-55-7	Not applicable	Not applicable	Not applicable

CLP Classification - Regulation (EC) No 1272/2008

Based on available data, the classification criteria are not met.

. Combustible liquid.

SECTION 16: OTHER INFORMATION

Legend

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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/NDSL - 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

RPE - Respiratory Protective Equipment

LC50 - Lethal Concentration 50%

POW - Partition coefficient Octanol:Water

TWA - Time Weighted Average

IARC - International Agency for Research on Cancer

LD50 - Lethal Dose 50%

EC50 - Effective Concentration 50%

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

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 compound)

Key literature references and sources for data

<https://echa.europa.eu/information-on-chemicals>

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

Training Advice

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

Creation Date	15-Apr-2015
Revision Date	01-Apr-2022
Revision Number	4
Revision Summary	SDS sections updated.

MOEL's Public Notice No. 2020-130 (Standards for Classification and Labeling of Chemical Substances and Safety Data Sheets)

Disclaimer

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End of Safety Data Sheet