

1 Identification of the substance/mixture and of the company/undertaking

- **Product identifier**
- **Trade name** Hexylene glycol
- **Article number:** 5183510040
- **CAS Number:**
107-41-5
- **EC number:**
203-489-0
- **Index number:**
603-053-00-3
- **Relevant identified uses of the substance or mixture and uses advised against** None.
- **Application of the substance / the preparation**
Chemical intermediate
Chemicals for synthesis
Additive for cosmetic or pharmaceutical preparations
Solvents
Odoriferous substance
Emulsifier
- **Details of the supplier of the safety data sheet**
- **Manufacturer/Supplier:**
SUPPLIER:
Biesterfeld International GmbH
Ferdinandstr. 41
D-20095 Hamburg
Germany
- **Informing department:**
Dept. QSHE, Mr. P. Tentler, Phone: +49 2224981155; e-mail: sdb@biesterfeld.com
- **Emergency telephone number:**
GIZ-Nord, Göttingen, Germany
Member of EPECS Network
EMERGENCY NUMBER: +49 551 19240

2 Hazards identification

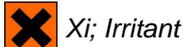
- **Classification of the substance or mixture**
- **Classification according to Regulation (EC) No 1272/2008**



Skin Irrit. 2 H315 Causes skin irritation.

Eye Irrit. 2 H319 Causes serious eye irritation.

- **Classification according to Directive 67/548/EEC or Directive 1999/45/EC**



R36/38: Irritating to eyes and skin.

- **Classification system:**
The classification is in line with current EU lists. It is expanded, however, by information from technical literature and by information furnished by supplier companies.

- **Label elements**
- **Labelling according to Regulation (EC) No 1272/2008**
The substance is classified and labelled according to the CLP regulation.

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· **Hazard pictograms**



GHS07

· **Signal word** Warning

· **Hazard statements**

H315 Causes skin irritation.

H319 Causes serious eye irritation.

· **Precautionary statements**

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.

P302+P352 IF ON SKIN: Wash with plenty of soap and water.

P332+P313 If skin irritation occurs: Get medical advice/attention.

P337+P313 If eye irritation persists: Get medical advice/attention.

· **Other hazards**

· **Results of PBT and vPvB assessment**

· **PBT:** Not applicable.

· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Substances**

· **CAS No. Designation:**

107-41-5 2-methylpentane-2,4-diol; hexylene glycol; 2-methyl-2,4-pentanediol

· **Identification number(s):**

· **EC number:** 203-489-0

· **Index number:** 603-053-00-3

· **Additional information:** INCI name: HEXYLENE GLYCOL

* 4 First aid measures

· **Description of first aid measures**

· **General information**

Personal protection for the First Aider.

Remove contaminated clothing.

If unconscious, place in recovery position and seek medical advice.

· **After inhalation**

Take affected persons into the open air and position comfortably

Supply fresh air. If required, provide artificial respiration. Keep patient warm. Consult doctor if symptoms persist.

· **After skin contact**

Remove contaminated clothing.

Immediately wash with water and rinse thoroughly.

Or better;

Immediately wash with water and soap and rinse thoroughly.

If skin irritation continues, consult a doctor.

After wide skin contact seek medical treatment.

· **After eye contact**

Use eye protection.

Rinse opened eye for several minutes under running water. Then consult Oculist.

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- **After swallowing**
Rinse out mouth and then drink (two glasses at the most) water.
Do not induce vomiting.
Seek medical treatment.
Turn a vomiting person on the side if lying on the back.
If vomiting occurs, the head should be kept low.
- **Information for doctor**
For detailed information see:
<http://gestis-en.itrust.de/>
- **Most important symptoms and effects, both acute and delayed**
Irritations after contact with eyes, skin and mucous membrane.
After inhalation of gas, vapour or aerosol:
Irritating to respiratory tract.
Coughing
Breathing difficulty (dyspnea)
After swallowing:
Gastric or intestinal trouble
Systemic effects:
Fever
Headache
Dizziness
Unconsciousness
Cramp
Drop in blood pressure.
Nausea
Vomiting
Diarrhoea
Possible other symptoms are currently not known.
- **Danger**
Irritating on eyes.
Causes skin irritation.
Slightly irritation on respiratory tract.
Cardiovascular disorders.
Tachycardia.
Danger of system failure.
Danger of impaired breathing.
May cause liver and kidney damage.
Danger of disturbed CNS.
There are at present no indications to further acute dangers for the health.
Further health dangers cannot be excluded however.
- **Indication of any immediate medical attention and special treatment needed**
Elemental assistance.
Decontamination.
Treat symptomatically and supportively.

5 Firefighting measures

- **Extinguishing media**
- **Suitable extinguishing agents**
CO₂, extinguishing powder or water fog. Fight larger fires with water fog or alcohol-resistant foam.
- **For safety reasons unsuitable extinguishing agents** Water with a full water jet.
- **Special hazards arising from the substance or mixture**
Formation of poisonous gases during heating or in fires.
Can be released in case of fire:

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Carbon monoxide and carbon dioxide.

· **Advice for firefighters**

· **Protective equipment:**

Wear self-contained breathing apparatus.

Wear full protective suit.

· **Additional information**

Collect contaminated fire fighting water separately. It must not enter drains.

Cool endangered containers with water spray jet.

Heating causes a rise in pressure, risk of bursting.

Container explosion may occur under fire conditions.

* **6 Accidental release measures**

· **Personal precautions, protective equipment and emergency procedures**

Wear protective equipment. Keep unprotected persons away.

Use breathing protection against the effects of fumes/dust/aerosol.

Keep away from sources of ignition.

Ensure adequate ventilation

Bring persons out of danger.

· **Environmental precautions:**

Do not allow to enter sewage systems, water bodies, groundwater or soil.

Inform respective authorities in case large quantities of the product reach water, sewage system or soil.

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

Keep ignition sources away.

Ensure adequate ventilation.

Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders).

Clean up affected area.

May be recycled or disposed of in appropriate containers

Dispose of contaminated material as waste according to item 13.

· **Reference to other sections**

See Section 7 for information on safe handling

See Section 8 for information on personal protection equipment.

See Section 13 for information on disposal.

* **7 Handling and storage**

· **Handling**

· **Precautions for safe handling**

Keep containers tightly closed.

Prevent formation of aerosols.

Ensure good ventilation/exhaustion at the workplace.

Ensure good interior ventilation, especially at floor level. (Fumes are heavier than air).

· **Hygiene measures:**

Keep away from foodstuffs, beverages and feedingstuff.

Instantly remove any soiled and impregnated garments.

Wash hands during breaks and at the end of the work.

Do not inhale gases / fumes / aerosols.

Avoid contact with the eyes and skin.

Do not eat, drink or smoke while working.

· **Information about protection against explosions and fires:**

Substance/product is flammable.

Forms explosive mixtures with air on intense heating.

Fire fighting equipment must be available.

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Protect from heat.

Keep ignition sources away - Do not smoke.

Protect against electrostatic charges.

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

· **Storage**

· **Requirements to be met by storerooms and containers:**

Store in original container if possible.

Provide solvent resistant, sealed floor.

Prevent any penetration into the ground.

· **Information about storage in one common storage facility:**

Store away from foodstuffs.

Do not store together with materials/products which can form dangerous chemical reactions.

See point 10: stability and reactivity.

· **Further information about storage conditions:**

Store in a dry place. Store in a closed container.

Protect from heat and direct sunlight.

Store container in a well ventilated position.

Protect from humidity and keep away from water.

This product is hygroscopic.

· **Recommended storage temperature:** < +30 °C

· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**

· **Components with critical values that require monitoring at the workplace:**

107-41-5 2-methylpentane-2,4-diol

WEL (Great Britain) Short-term value: 123 mg/m³, 25 ppm

Long-term value: 123 mg/m³, 25 ppm

· **DNELs**

Oral	DNEL/long t.systemic	1 mg/kg bw/day (General population) (ECHA)
Dermal	DNEL/long t-systemic	2 mg/kg bw/day (Workers) (ECHA)
Inhalative	DNEL/acute-local	1 mg/kg bw/day (General population) (ECHA)
		98 mg/m ³ (Workers) (ECHA)
	DNEL/long t.systemic	49 mg/m ³ (General population) (ECHA)
		14 mg/m ³ (Workers) (ECHA)
DNEL/long term-local	3,5 mg/m ³ (General population) (ECHA)	
	49 mg/m ³ (Workers) (ECHA)	
		25 mg/m ³ (General population) (ECHA)

· **PNECs**

Oral	PNEC - Oral	100 mg/kg/food (oral) (ECHA)
	PNEC - Aquatic	0,0429 mg/l (Marine water) (ECHA)
0,429 mg/l (Freshwater) (ECHA)		
4,29 mg/l (Intermittent releases) (ECHA)		
	PNEC - STP	20 mg/l (Sewage treatment plant) (ECHA)
	PNEC - Sediment	0,179 mg/kg (Marine water) (ECHA)

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1,79 mg/kg (Freshwater) (ECHA)

· **Additional information:** The lists that were valid during the compilation were used as basis.

· **Exposure controls**

· **Personal protective equipment**

· **General protective measures:**

The usual precautionary measures should be adhered to in handling the chemicals.

· **Breathing equipment:**

If used in closed systems or well-ventilated area breathing protection is not necessary.

Required when vapours, aerosol or mist are generated.



In case of brief exposure or low pollution use breathing filter apparatus. In case of intensive or longer exposure use breathing apparatus that is independent of circulating air.

Filter A.

· **Protection of hands:**



Chemical-protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation. Check protective gloves prior to each use for their proper condition.

Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Preventive skin protection by use of skin-protecting agents is recommended.

· **Material of gloves**

Full contact:

eg Butyl rubber, BR

Recommended thickness of the material: $\geq 0,5$ mm

eg Fluorocarbon rubber (Viton)

Recommended thickness of the material: $\geq 0,7$ mm

eg Nitrile rubber, NBR

Recommended thickness of the material: $\geq 0,4$ mm

eg Chloroprene rubber, CR

Recommended thickness of the material: $\geq 0,5$ mm

eg Natural rubber, NR

Recommended thickness of the material: ≥ 1 mm

Splash contact:

eg Nitrile rubber, NBR

Recommended thickness of the material: $\geq 0,11$ mm

eg Natural rubber, NR

Recommended thickness of the material: $\geq 0,6$ mm

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer.

ASK THE MANUFACTURER FOR SUITABLE MATERIAL.

· **Penetration time of glove material**

Full contact.

Permeation time: > 480 min (8h) EN 374

Splash contact

Permeation time: >240 min (4h) - <480 Min (8h)

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

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· **Not suitable are gloves made of the following materials:**

Strong gloves
Leather gloves

· **Eye protection:**



Safety glasses with side protection.

Or better;

Gauze goggles

· **Body protection:**

Solvent resistant protective clothing.

Antistatic protective clothing.

Flameproof protective clothing.

Apron

Boots

or

Suitable chemical protection suit.

Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**

· **General Information**

· **Appearance:**

Form:	Fluid
Colour:	colourless
Smell:	Slightly sweetish

· **pH-value:** No data available

· **Change in condition**

Melting point/Melting range:	-37 °C
Boiling point/Boiling range:	196 - 198 °C

· **Flash point:** 93 °C (c.c.)

· **Ignition temperature:** 306 °C (DIN 51794)

· **Decomposition temperature:** No data available

· **Danger of explosion:** Product is not explosive. However, formation of explosive air/steam mixtures is possible by heating.

· **Critical values for explosion:**

Lower:	1 Vol %
Upper:	9,9 Vol %

· **Vapour pressure at 20 °C:** 0,065 hPa

· **Vapour pressure at 91 °C:** 4 hPa

· **Vapour Density (air=1):** No data available

· **Density at 20 °C** 0,920 - 0,928 g/cm³

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- **Solubility in / Miscibility with Water:** Fully miscible
- **Partition coefficient (n-octanol/water):** 0,58 log POW
- **Viscosity:**
 - dynamic at 20 °C:** 36 mPas (ASTM D-445)
 - kinematic:** No data available
- **Other information** No further relevant information available.

* **10 Stability and reactivity**

- **Reactivity**
- **Chemical stability**
- **Conditions to be avoided:**
No decomposition if used and stored according to specifications.
To avoid thermal decomposition do not overheat.
Flames, sparks, electrostatic charges.
Moisture-sensitive
- **Possibility of hazardous reactions**
Forms explosive mixtures with air on intense heating.
Reacts with acids.
Reacts with acid chlorides.
Reacts with acid anhydrides.
Reacts with strong reducing agents.
Reacts with strong oxidizing agents.
- **Conditions to avoid** No further relevant information available.
- **Incompatible materials:** No further relevant information available.
- **Hazardous decomposition products:**
Poisonous gases/vapours
Inflammable gases/vapours
Can be released in case of fire:
Carbon monoxide (CO) and carbon dioxide (CO₂)

* **11 Toxicological information**

- **Information on toxicological effects**
- **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

Oral	LD50	3692 mg/kg (rodent - rat)
Dermal	LD0	> 2000 mg/kg (rodent - rat) (OECD 402 (ECHA))
	LD50	8,56 ml/kg (rabbit) (Toxnet)
Inhalative	LC50/1h	>310 mg/m ³ (rodent - rat) (Toxnet)

- **Primary irritant effect:**
- **on the skin:**
Skin irritation test (rabbit): Slight irritations (OECD 404 (ECHA)).
At long or repeated contact with skin it may cause dermatitis due to the degreasing effect of the solvent.
- **on the eye:** Eye irritation test (rabbit): Slight irritations (OECD 405 (ECHA)).
- **Sensitization:** Sensitization test (guinea pig): negative (OECD 406 (ECHA))
- **Subacute to chronic toxicity:**
mutagenic activity:

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Bacterial mutagenicity - Ames-Test: negative (IUCLID).

Mutagenicity (mammal cell test - in vitro): chromosome aberration negative. (OECD 473 (ECHA))

carcinogenic activity:

IARC (International Agency for Research on Cancer)

No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

teratogenic activity:

No teratogenic effect in animal experiments (OECD 414 (ECHA)).

fertility impairment:

No impairment of reproductive performance in animal experiments. (OECD 421 (ECHA))

Additional toxicological information:

Causes serious eye irritation .

by contact with skin.

Irritant

Inhalation of concentrated vapours as well as oral intake will lead to anaesthesia-like conditions and headache, dizziness, etc.

Further hazardous properties cannot be excluded.

The substance / product should be handled with the care usual when dealing with chemicals.

Repeated dose toxicity

Oral	NOAEL	300 mg/kg bw/day (rodent - rat) (OECD 414 (ECHA))
	NOEL long term	50 mg/kg bw/day (rodent - rat) (OECD 408 (ECHA))

12 Ecological information

Toxicity

Aquatic toxicity:

acute:

EC50 / 48h	5410 mg/l (DAPHNIA TOXICITY: (daphnia magna)) (OECD 202 (ECHA))
EC50 / 72h	> 429 mg/l (ALGEAL TOXICITY: (Pseudokirchner. sub.)) (OECD 201 (ECHA))
LC50 / 96h	16500 mg/l (DAPHNIA TOXICITY:) (ECHA)
LL50 / 96h (dynamic)	8690 mg/l (FISH TOXICITY: (pimephales promelas)) (OECD 203 (ECHA))
NOEC acute	429 mg/l (ALGEAL TOXICITY: (Pseudokirchner. sub.)) (OECD 201 (ECHA))

Terrestrial toxicity: No data available

Persistence and degradability Easily biodegradable

Method

Analysing method OECD 301 F (manometric respirometry)

Degree of elimination: 81% 28

Behaviour in environmental systems:

Bioaccumulative potential

Due to the distribution coefficient n-octanol/water an accumulation in organisms is not expected.

Mobility in soil No data available

Additional ecological information:

AOX-indication: The product does not contribute to the AOX value of the waste water.

General notes: Do not allow product to reach ground water, water bodies, sewage system or soil.

Results of PBT and vPvB assessment

PBT: Not applicable.

vPvB: Not applicable.

Other adverse effects No further relevant information available.

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Trade name **Hexylene glycol**

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* 13 Disposal considerations

- **Waste treatment methods**
- **Recommendation**
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Disposal must be made according to official regulations.
- **European waste catalogue**
A waste code in accordance with the European Waste Catalogue (EWC) may not be assigned to this product since it admits of a classification only when the consumer uses it for some purpose. In agreement with the waste code must be determined regional waste disposal authority or company.
- **Uncleaned packagings:**
- **Recommendation:** Disposal must be made according to official regulations.

14 Transport information

· UN-Number	
· ADR, ADN, IMDG, IATA	Void
· UN proper shipping name	
· ADR, ADN, IMDG, IATA	Void
· Transport hazard class(es)	
· ADR, ADN, IMDG, IATA	
· Class	Void
· Packing group	
· ADR, IMDG, IATA	Void
· Environmental hazards:	Not applicable.
· Special precautions for user	Not applicable.
· Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code	Not applicable.
· Transport/Additional information:	Not dangerous according to the above specifications.
· UN "Model Regulation":	-

* 15 Regulatory information

- **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

* 16 Other information

These statements solely describe the safety demands of the product and base according to the best of our belief on our today's knowledge. They, however, do not represent any assurance towards properties of the product within the sense of liability, resp. guaranty regulations and thus are given without any obligation.

- **Department issuing data specification sheet:** Dept. QSHE
- **Contact:** Mr. Dr. Hollitzer, Fon: +49 4032008284; mailto: sdb@biesterfeld.com
- **Abbreviations and acronyms:**
RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail)
ICAO: International Civil Aviation Organization

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ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
IATA: International Air Transport Association
GHS: Globally Harmonized System of Classification and Labelling of Chemicals
EINECS: European Inventory of Existing Commercial Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
DNEL: Derived No-Effect Level (REACH)
PNEC: Predicted No-Effect Concentration (REACH)
Lit.: Literatur

Sources

Information of distributor.

European chemical Substances Information System

<http://esis.jrc.ec.europa.eu/>

ECHA Information on Registered Substances.

<http://apps.echa.europa.eu/registered/registered-sub.aspxsearch>

ECHA Classification and Labelling

echa.europa.eu/de/view-article/-/journal/content/07005f81-abf1-4081-973b-6c7c526c39df

GESTIS - Substance Database

<http://gestis.itrust.de>

MSDS of different manufacturers.

Chemikalienmanager, KCL-Software für den Handschutz

Environmental Health and Toxicology National Library of Medicine TOXNET.

<http://sis.nlm.nih.gov/enviro.html>

CosIng COSMETIC INGREDIENTS & SUBSTANCES

<http://ec.europa.eu/enterprise/cosmetics/cosing/>

· *** Data compared to the previous version altered.**