

SAFETY DATA SHEET



Zorgol 8
10730

Version / Revision 3
Supersedes Version 2.01

Revision Date 06-May-2020
Issuing date 15-May-2020

SECTION 1: Identification

1.1. Product identifier

Identification of the
substance/preparation

Zorgol 8

Chemical Name
CAS-No

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues
68609-68-7

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

Use of the Substance /
Preparation

Intermediate

Uses advised against

None

1.3. Details of the supplier of the safety data sheet

Supplier

OQ Chemicals Corporation
15375 Memorial Drive
West Memorial Place I
Suite 300
Houston, TX 77079
USA
Phone +1 346 378 7300

Product Information

Product Stewardship
FAX: +49 (0)208 693 2053
email: sc.psq@oq.com

1.4. Emergency telephone number

Emergency telephone number NCEC +1 202 464 2554
available 24/7

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

This substance is classified in accordance with paragraph (d) of §1910.1200 (GHS-US classification).

Skin corrosion/irritation Category 2, H315

Environmental hazard Aquatic Acute 3; H402; Aquatic Chronic 3; H412

OSHA Specified Hazards

Not applicable.

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2.2. Label elements

Labeling according to §1910.1200 (GHS-US labeling).

Hazard symbol(s)



Signal word

Warning

Hazard statements

H315: Causes skin irritation.
H402: Harmful to aquatic life
H412: Harmful to aquatic life with long lasting effects.

Precautionary statements

Prevention

P264: Wash hands thoroughly after handling.
P280: Wear protective gloves.
P273: Avoid release to the environment.

Response

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P303 + P361 + P353: IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water or shower.
P301 + P330 + P331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P363: Wash contaminated clothing before reuse.
P304 + P340: IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P310: Immediately call a POISON CENTER/doctor.

Storage

P405: Store locked up.

Disposal

P501: Dispose of contents/container in accordance with local regulation.

2.3. Other hazards

None known

SECTION 3: Composition / information on ingredients

3.1. Substances

| Component | CAS-No | Concentration (%) |
|-----------|--------|-------------------|
|-----------|--------|-------------------|

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| | | |
|--|------------|-----|
| 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues | 68609-68-7 | 100 |
|--|------------|-----|

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation

Keep at rest. Aerate with fresh air. When symptoms persist or in all cases of doubt seek medical advice.

Skin

Wash off immediately with soap and plenty of water. When symptoms persist or in all cases of doubt seek medical advice.

Eyes

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

Ingestion

Do not induce vomiting without medical advice. Call a physician immediately.

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

Main symptoms

shortness of breath.

Special hazard

Lung oedema, Lung irritation.

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

General advice

Remove contaminated, soaked clothing immediately and dispose of safely. First aider needs to protect himself.

Treat symptomatically. In case of lung irritation, first treatment with cortisone spray.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media

alcohol-resistant foam, dry chemical, carbon dioxide (CO₂), water spray

Unsuitable Extinguishing Media

Do not use a solid water stream as it may scatter and spread fire.

5.2. Special hazards arising from the substance or mixture

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Under conditions giving incomplete combustion, hazardous gases produced may consist of:
carbon monoxide (CO)
carbon dioxide (CO₂)
Combustion gases of organic materials must in principle be graded as inhalation poisons
Vapours are heavier than air and may spread along floors

5.3. Advice for firefighters

Special protective equipment for firefighters

Fire fighter protection should include a self-contained breathing apparatus (NIOSH-approved or EN 133) and full fire-fighting turn out gear.

Precautions for firefighting

Cool containers / tanks with water spray. Do not allow run-off from fire fighting to enter drains or water courses. Dike and collect water used to fight fire. Water run-off can cause environmental damage. Keep people away from and upwind of fire.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel: For personal protective equipment see section 8. Avoid contact with skin and eyes. Avoid breathing vapors or mists. Keep people away from and upwind of spill/leak. Ensure adequate ventilation, especially in confined areas. Keep away from heat and sources of ignition.
For emergency responders: Personal protection see section 8.

6.2. Environmental precautions

Prevent further leakage or spillage. Do not discharge product into the aquatic environment without pretreatment (biological treatment plant). Water runoff can cause environmental damage.

6.3. Methods and material for containment and cleaning up

Methods for containment

Stop the flow of material, if possible without risk. Dike spilled material, where this is possible.

Methods for cleaning up

Soak up with inert absorbent material. DO NOT use combustible materials such as sawdust. Keep in suitable, closed containers for disposal. If liquid has been spilt in large quantities clean up promptly by scoop or vacuum. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours).

6.4. Reference to other sections

For personal protective equipment see section 8.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Advice on safe handling

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product. Provide sufficient air exchange and/or exhaust in work rooms.

Hygiene measures

When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Advice on the protection of the environment

See Section 8: Environmental exposure controls.

Incompatible products

acids and bases
amines
oxidizing agents

7.2. Conditions for safe storage, including any incompatibilities

Advice on protection against fire and explosion

Keep away from sources of ignition - No smoking. Take necessary action to avoid static electricity discharge (which might cause ignition of organic vapours). In case of fire, emergency cooling with water spray should be available. Ground and bond containers when transferring material.

Technical measures/Storage conditions

Keep containers tightly closed in a cool, well-ventilated place. Handle and open container with care. Handle under nitrogen, protect from moisture.

SECTION 8: Exposure controls / personal protection

8.1. Control parameters

Exposure limits United States of America

No exposure limits established.

8.2. Exposure controls

Appropriate Engineering controls

General or dilution ventilation is frequently insufficient as the sole means of controlling employee exposure. Local ventilation is usually preferred. Explosion-proof equipment (for example fans, switches, and grounded ducts) should be used in mechanical ventilation systems.

Individual protection measures, such as personal protective equipment

General industrial hygiene practice

Avoid contact with skin, eyes and clothing. Do not breathe vapours or spray mist. Ensure that eyewash stations and safety showers are close to the workstation location.

Hygiene measures

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When using, do not eat, drink or smoke. Take off all contaminated clothing immediately. Wash hands before breaks and immediately after handling the product.

Eye protection

Tightly fitting safety goggles. In addition to goggles, wear a face shield if there is a reasonable chance for splash to the face.

Hand protection

Wear protective gloves. Recommendations are listed below. Other protective material may be used, depending on the situation, if adequate degradation and permeation data is available. If other chemicals are used in conjunction with this chemical, material selection should be based on protection for all chemicals present.

| | |
|---------------------------|---|
| Suitable material | nitrile rubber |
| Evaluation | according to EN 374: level 6 |
| Glove thickness | approx 0,55 mm |
| Break through time | > 480 min |
| Suitable material | polyvinylchloride |
| Evaluation | Information derived from practical experience |
| Glove thickness | approx 0,8 mm |

Skin and body protection

Impervious clothing. Wear face-shield and protective suit for abnormal processing problems.

Respiratory protection

Respirator with filter for organic vapour. Use the indicated respiratory protection if the occupational exposure limit is exceeded and/or in case of product release (vapor or mist). Equipment should conform to NIOSH.

Environmental exposure controls

If possible use in closed systems. If leakage can not be prevented, the substance needs to be suck off at the emission point, if possible without danger. Observe the exposure limits, clean exhaust air if needed. If recycling is not practicable, dispose of in compliance with local regulations. Inform the responsible authorities in case of leakage into the atmosphere, or of entry into waterways, soil or drains.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|----------------------------|---|
| Appearance | liquid |
| Colour | light brown |
| Odour | slight |
| Odour threshold | No data available |
| pH | 7 (0,79 g/l in water @ 20 °C (68 °F)) |
| Melting point/range | < -4 °F (< -20 °C) |
| Method | OECD 102 |
| Boiling point/range | 394 - 689 °F (201 - 365 °C) @ 1 atm (101,3 kPa) |
| Method | OECD 103 |
| Flash point | 205 °F (96 °C) @ 1 atm (101,3 kPa) |
| Method | ISO 2719 |

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Evaporation rate No data available
Flammability (solid, gas) Does not apply, the substance is a liquid
Lower explosion limit No data available
Upper explosion limit No data available

Vapour pressure

| Values [hPa] | Values [kPa] | Values [atm] | @ °C | @ °F | Method |
|--------------|--------------|--------------|------|------|--------|
| 10 | 1 | 0,01 | 111 | 232 | |
| 60 | 6 | 0,06 | 173 | 343 | |

Vapour density No data available

Relative density

| Values | @ °C | @ °F | Method |
|--------|------|------|----------|
| 0,93 | 20 | 68 | OECD 109 |

Solubility 0,79 g/l @ 20 °C (68 °F), in water, OECD 105

log Pow 1,6 @ 23 °C (73,4 °F) OECD 107

Autoignition temperature 482 °F (250 °C) @ 1 atm (101,3 kPa)

Method EU A.15

Decomposition temperature No data available

Viscosity 34,18 mPa*s @ 68 °F (20 °C)

Method dynamic, OECD 114

9.2. Other information

Oxidizing properties Does not apply, substance is not oxidising. There are no chemical groups associated with oxidizing properties

Explosive properties Does not apply, substance is not explosive. There are no chemical groups associated with explosive properties

Surface tension 42,67 mN/m @ 20 °C (68 °F), EU A.5

SECTION 10: Stability and Reactivity

10.1. Reactivity

The reactivity of the product corresponds to the typical reactivity shown by the substance group as described in any text book on organic chemistry.

10.2. Chemical stability

Stable under recommended storage conditions. Stable up to approximately ~ 270 °C.

10.3. Possibility of hazardous reactions

Hazardous polymerisation does not occur.

10.4. Conditions to avoid

Avoid contact with heat, sparks, open flame and static discharge. Avoid any source of ignition.

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10.5. Incompatible materials

bases, amines, acids, oxidizing agents.

10.6. Hazardous decomposition products

No decomposition if stored and applied as directed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Likely routes of exposure Ingestion, Inhalation, Eye contact, Skin contact

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

Main symptoms

shortness of breath.

Target Organ Systemic Toxicant - Single exposure

Based on available data, the classification criteria are not met for:

STOT SE

Target Organ Systemic Toxicant - Repeated exposure

Based on available data, the classification criteria are not met for:

STOT RE

Acute toxicity

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

| Routes of Exposure | Endpoint | Values | Species | Method |
|--------------------|----------|-----------------|------------------|----------|
| Oral | LD50 | > 5000 mg/kg | rat, male/female | OECD 401 |
| Inhalative | LC50 | > 5,4 mg/l (4h) | rat, male/female | OECD 403 |

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

Assessment

Based on available data, the classification criteria are not met for:

Acute oral toxicity

Acute inhalation toxicity

For acute dermal toxicity, no data are available

Irritation and corrosion

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

| Target Organ Effects | Species | Result | Method | |
|----------------------|---------|--------------------------|----------|--|
| Skin | rabbit | Moderate skin irritation | OECD 404 | |
| Eyes | rabbit | Mild eye irritation | OECD 405 | |

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

Assessment

The available data lead to the classification given in section 2

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For respiratory irritation, no data are available

| Sensitization | | | | |
|--|-----------------|-----------------|----------|--|
| 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7) | | | | |
| Target Organ Effects | Species | Evaluation | Method | |
| Skin | guinea pig male | not sensitizing | OECD 406 | |

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

Assessment

Based on available data, the classification criteria are not met for:

Skin sensitization

For respiratory sensitization, no data are available

| Subacute, subchronic and prolonged toxicity | | | | |
|--|------------------------|------------------|----------|------|
| 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7) | | | | |
| Type | Dose | Species | Method | |
| Subacute toxicity | NOAEL: 1000 mg/kg/d | rat, male/female | OECD 422 | Oral |
| Subchronic toxicity | NOAEL: ca. 750 mg/kg/d | rat, male/female | OECD 408 | Oral |

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

Assessment

Based on available data, the classification criteria are not met for:

STOT RE

| Carcinogenicity, Mutagenicity, Reproductive toxicity | | | | | |
|--|--------------------|---|------------|------------------------------------|--|
| 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7) | | | | | |
| Type | Dose | Species | Evaluation | Method | |
| Mutagenicity | | V79 cells, Chinese hamster | negative | OECD 473 (Chromosomal Aberration) | |
| Mutagenicity | | Salmonella typhimurium Escherichia coli | negative | OECD 471 (Ames) | |
| Mutagenicity | | CHO (Chinese Hamster Ovary) cells | negative | OECD 476 (Mammalian Gene Mutation) | |
| Reproductive toxicity | NOAEL 1000 mg/kg/d | rat, parental | | OECD 422, Oral | |
| Reproductive toxicity | NOAEL 1000 mg/kg/d | rat, 1. Generation, male/female | | OECD 422, Oral | |
| Developmental Toxicity | NOAEL 1000 mg/kg/d | rat | | OECD 422, Oral | Maternal toxicity |
| Developmental Toxicity | NOEL 1000 mg/kg/d | rat | | OECD 422, Oral | Developmental toxicity, Teratogenicity |
| Developmental Toxicity | NOAEL >= 300 | rat | | OECD 414, Oral | Maternal toxicity |

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| | | | | | |
|------------------------|---------------------------|-----|--|----------------|----------------|
| | mg/kg/d | | | | |
| Developmental Toxicity | NOAEL \geq 1000 mg/kg/d | rat | | OECD 414, Oral | Fetal toxicity |

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CMR Classification

The available data on CMR properties are summarized in the table above. They do not indicate a classification into categories 1A or 1B

Evaluation

In vitro tests did not show mutagenic effects
Did not show reprotoxic effects in animal experiments
No cancer study was conducted

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Aspiration toxicity

no data available

Note

Handle in accordance with good industrial hygiene and safety practice. Further details on substance data can be found in the registration dossier under the following link:
<http://echa.europa.eu/information-on-chemicals/registered-substances>.

SECTION 12: Ecological information

12.1. Toxicity

Acute aquatic toxicity

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

| Species | Exposure time | Dose | Method |
|-----------------------------|---------------|-------------------------------|----------|
| Danio rerio (Zebra fish) | 96h | LC50: 50 mg/l | OECD 203 |
| Daphnia magna (Water flea) | 48h | EC50: > 38 mg/l | OECD 202 |
| Desmodesmus subspicatus | 72h | EC50: > 34 mg/l (Growth rate) | OECD 201 |
| Desmodesmus subspicatus | 72h | EC50: 35 mg/l (Biomass) | OECD 201 |
| Activated sludge (domestic) | 3 h | EC50: 1655 mg/l | OECD 209 |

Long term toxicity

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7)

| Type | Species | Dose | Method |
|-----------|-------------------------|-----------------------------------|----------|
| Mortality | Scenedesmus subspicatus | NOEC: 19 mg/l (3d) Growth rate | OECD 201 |

12.2. Persistence and degradability

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

Biodegradation

30 - 35 % (29 d), activated sludge (domestic), non-adapted, aerobic, OECD 301 B.

Abiotic Degradation

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| 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7) | | |
|---|-------------------|--------|
| Type | Result | Method |
| Hydrolysis | No data available | |
| Photolysis | not expected | |

12.3. Bioaccumulative potential

| 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7) | | |
|---|---------------------|--------------------|
| Type | Result | Method |
| log Pow | 1,6@23 °C (73,4 °F) | measured, OECD 107 |
| BCF | No data available | |

12.4. Mobility in soil

| 1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues (68609-68-7) | | |
|---|----------------------------|--------|
| Type | Result | Method |
| Adsorption/Desorption | no data available | |
| Surface tension | 42,67 mN/m @ 20 °C (68 °F) | EU A.5 |
| Distribution to environmental compartments | no data available | |

12.5. Results of PBT and vPvB assessment

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PBT and vPvB assessment

Not required

12.6. Other adverse effects

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

No data available

Note

Avoid release to the environment.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Product Information

Disposal required in compliance with all waste management related state and local regulations. The choice of the appropriate method of disposal depends on the product composition by the time of disposal as well as the local statutes and possibilities for disposal.

Uncleaned empty packaging

Contaminated packaging should be emptied as far as possible and after appropriate cleansing may be taken for

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reuse.

SECTION 14: Transport information

Section 14.1 - 14.6

D.O.T. (49CFR) Not restricted

ICAO-TI / IATA-DGR Not restricted

IMDG Not restricted

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code not applicable

SECTION 15: Regulatory information

Federal and State Regulations

Components of the product are listed in the quoted regulations. For details please refer to the regulations directly. This list is not exhaustive, please check for other applicable regulations.

Federal Regulations

This product is listed on the TSCA inventory

International Inventories

1-Hexanol, 2-ethyl-, manufacture of, by-products from, distillation residues, CAS: 68609-68-7

AICS (AU)
DSL (CA)
IECSC (CN)
EC-No. 2718321 (EU)
KECI 2011-3-5023 (KR)
PICCS (PH)
TSCA (US)
NZIoC (NZ)
TCSI (TW)

SECTION 16: Other information

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Hazard Rating Systems

NFPA (National Fire Protection Association)

| | |
|---------------|---|
| Health Hazard | 2 |
| Fire Hazard | 1 |
| Reactivity | 0 |

HMIS (Hazardous Material Information System)

| | |
|-----------------|---|
| Health Hazard | 1 |
| Flammability | 1 |
| Physical Hazard | 0 |

Training advice

For effective first-aid, special training / education is needed.

Sources of key data used to compile the datasheet

Information contained in this safety data sheet is based on OQ owned data and public sources deemed valid or acceptable. The absence of data elements required by OSHA, ANSI or Annex II, Regulation 1907/2006/EC indicates, that no data meeting these requirements is available.

Further information for the safety data sheet

Changes against the previous version are marked by ***. Observe national and local legal requirements. For more information, other material safety data sheets or technical data sheets please consult the OQ homepage (www.chemicals.oq.com).

The use of a comma in section 3 and section 7 to 12 is the same as a period.

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End of Safety Data Sheet