



VERSAPASS® DA Magenta

Safety Data Sheet

according to: Industry Code of Practice on Chemicals Classification and Hazard Communication
Issue date: 9/7/2023 Version: 1.0

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

1.1. Product identifier

Product form : Mixture
Name : VERSAPASS® DA Magenta

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

1.2.1. Relevant identified uses

Use of the substance/mixture : printing inks

1.2.2. Uses advised against

Restrictions on use : Other

1.3. Details of the supplier of the safety data sheet

Memjet Ltd.
Trintech Building
South County Business Park
Leopardstown
Dublin D18 H5H9
Ireland
T +353 1 678 0420
msds@memjet.com
www.memjet.com

1.4. Emergency telephone number

Emergency number : For Hazardous Materials Incidents (spill, leak, fire, exposure, or accident) call: CHEMTREC:
U.S. 1-800-424-9300 International: +1-703-527-3887
CHEMTREC (24 HOURS)

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification according to GHS

Not classified

Adverse physicochemical, human health and environmental effects

May cause an allergic skin reaction.

2.2. Label elements

Labelling according to GHS

No labeling applicable

2.3. Other hazards

Other hazards not contributing to the classification : Contains 1,2-benzisothiazolone. May cause an allergic skin reaction..

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

| Name | Product identifier | % | Classification according to GHS |
|-----------------|--------------------|---------|--|
| Ethylene glycol | CAS-No.: 107-21-1 | 5 - <10 | Acute Tox. 4 (Oral), H302 STOT RE 2, H373 |

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| Name | Product identifier | % | Classification according to GHS |
|--------------------------------|--------------------|--------|---------------------------------|
| Glycerol (glycerin, glycerine) | CAS-No.: 56-81-5 | 1 - <5 | Not classified |

Comments : The remaining components are not hazardous and/or present at amounts below reportable limits
Amounts are listed as ranges; the exact percentage of composition is withheld as a trade secret.

Full text of H- statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures after inhalation : If inhaled and if breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.

First-aid measures after skin contact : Gently wash with plenty of soap and water.

First-aid measures after eye contact : IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

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

Symptoms/effects after skin contact : Contains : 1,2-benzisothiazolone. May cause an allergic skin reaction.

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

No special procedures required.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Use extinguishing media appropriate for surrounding fire.

Unsuitable extinguishing media : None known.

5.2. Special hazards arising from the substance or mixture

Fire hazard : No particular fire or explosion hazard.

Explosion hazard : Product is not explosive.

5.3. Advice for firefighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Use extinguishing media appropriate for surrounding fire.

Protection during firefighting : Do not enter fire area without proper protective equipment, including respiratory protection. Wear fire/flame resistant/retardant clothing. Wear a self contained breathing apparatus.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

6.1.1. For non-emergency personnel

Emergency procedures : Take up small spills with dry chemical absorbent.

6.1.2. For emergency responders

Emergency procedures : Take up small spills with dry chemical absorbent.

6.2. Environmental precautions

Do not discharge into drains or the environment.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up : Small quantities of liquid spill: take up in non-combustible absorbent material and shovel into container for disposal.

6.4. Reference to other sections

Section 7: safe handling. Section 8: personal protective equipment. Section 13: disposal information.

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SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing.
Hygiene measures : Wash hands, forearms and face thoroughly after handling.

7.2. Conditions for safe storage, including any incompatibilities

Storage conditions : Store in original container.
Incompatible products : None known.

7.3. Specific end use(s)

Inkjet printing.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

| Ethylene glycol (107-21-1) | |
|--|---|
| Occupational Exposure Limits | |
| Local name | Ethane-1,2-diol [Ethylene glycol] |
| Ceiling limit (mg/m ³) | 100 mg/m ³ aerosol |
| Ceiling limit (ppm) | 39.4 ppm aerosol |
| Regulatory reference | OCCUPATIONAL SAFETY AND HEALTH (USE AND STANDARDS OF EXPOSURE OF CHEMICALS HAZARDOUS TO HEALTH) REGULATIONS |
| Glycerol (glycerin, glycerine) (56-81-5) | |
| Occupational Exposure Limits | |
| OEL (8 hours ref) (mg/m ³) | 10 mg/m ³ |
| Regulatory reference | OCCUPATIONAL SAFETY AND HEALTH (USE AND STANDARDS OF EXPOSURE OF CHEMICALS HAZARDOUS TO HEALTH) REGULATIONS |

8.2. Exposure controls

8.2.1. Appropriate engineering controls

Appropriate engineering controls:

No special work practices are needed beyond the above recommendations under anticipated conditions of normal use.

8.2.2. Personal protection equipment

8.2.2.1. Eye and face protection

Eye protection:

None under normal use

8.2.2.2. Skin protection

Hand protection:

nitrile rubber gloves

8.2.2.3. Respiratory protection

Respiratory protection:

None under normal use

8.2.2.4. Thermal hazards

No data available

8.2.3. Environmental exposure controls

No data available

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SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---------------------------------|---------------------|
| Physical state | : Liquid |
| Colour | : Magenta. |
| Appearance | : Magenta liquid. |
| Odour | : Not available |
| Odour threshold | : Not available |
| Melting point | : Not available |
| Freezing point | : Not available |
| Boiling point | : Not available |
| Flammability | : Not available |
| Explosive limits | : Not available |
| Lower explosion limit | : Not available |
| Upper explosive limit (UEL) | : Not available |
| Flash point | : Not available |
| Auto-ignition temperature | : Not available |
| Decomposition temperature | : Not available |
| pH | : 7.5 |
| Viscosity, kinematic | : Not available |
| Solubility | : Soluble in water. |
| Log Kow | : Not available |
| Vapour pressure | : Not available |
| Vapour pressure at 50°C | : Not available |
| Density | : Not available |
| Relative density | : Not available |
| Relative vapour density at 20°C | : Not available |

9.2. Other information

9.2.1. Information with regard to physical hazard classes

No data available

9.2.2. Other safety characteristics

No data available

SECTION 10: Stability and reactivity

10.1. Reactivity

No dangerous reactions known.

10.2. Chemical stability

The product is stable at normal handling and storage conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization will not occur.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No data available

SECTION 11: Toxicological information

11.1. Information on hazard classes

Acute toxicity (oral) : Not classified (Based on available data, the classification criteria are not met)

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Acute toxicity (dermal) : Not classified (Based on available data, the classification criteria are not met)
Acute toxicity (inhalation) : Not classified (Based on available data, the classification criteria are not met)

Ethylene glycol (107-21-1)

| | |
|---------------------------------|-------------------------|
| LD50 Oral rat | 7712 mg/kg Source: ECHA |
| LD50 Dermal rat | > 3500 mg/kg |
| LC50 Inhalation rat | > 2.5 mg/l/4h |
| LC50 Inhalation rat (dust/mist) | > 2.5 mg/l/4h |
| LC50 Inhalation rat (vapours) | > 2.5 mg/l/4h |
| ATE (oral) | 500 mg/kg bodyweight |

Skin corrosion/irritation : Not classified (Based on available data, the classification criteria are not met)
Serious eye damage/irritation : Not classified (Based on available data, the classification criteria are not met)
Respiratory or skin sensitisation : Not classified (Based on available data, the classification criteria are not met)
Germ cell mutagenicity : Not classified (Based on available data, the classification criteria are not met)
Carcinogenicity : Not classified (Based on available data, the classification criteria are not met)
Reproductive toxicity : Not classified (Based on available data, the classification criteria are not met)
STOT-single exposure : Not classified (Based on available data, the classification criteria are not met)
STOT-repeated exposure : Not classified (Based on available data, the classification criteria are not met)

Ethylene glycol (107-21-1)

| | |
|----------------------------|--|
| LOAEL (oral, rat, 90 days) | 1000 mg/kg bodyweight/day |
| NOAEL (oral, rat, 90 days) | 150 mg/kg bodyweight/day kidneys |
| STOT-repeated exposure | May cause damage to organs through prolonged or repeated exposure. |

Aspiration hazard : Not classified (Based on available data, the classification criteria are not met)

Likely routes of exposure: inhalation, skin and eye.

11.2. Information on other hazards

No data available

SECTION 12: Ecological information

12.1. Toxicity

Hazardous to the aquatic environment, short-term (acute) : Not classified (Based on available data, the classification criteria are not met)
Hazardous to the aquatic environment, long-term (chronic) : Not classified (Based on available data, the classification criteria are not met)

Ethylene glycol (107-21-1)

| | |
|------------------------|---|
| LC50 fish 1 | 72860 mg/l Pimephales promelas |
| EC50 crustacea | > 100 mg/l Daphnia magna |
| EC50 96h - Algae [1] | 3536 mg/l green algae |
| EC50 96h - Algae [2] | 6500 – 13000 mg/l Pseudokirchneriella subcapitata |
| NOEC (chronic) | ≥ 1000 mg/l Americamysis bahia, 23 d |
| NOEC chronic fish | 15380 mg/l Pimephales promelas |
| NOEC chronic crustacea | 8590 mg/l Ceriodaphnia sp. |

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Glycerol (glycerin, glycerine) (56-81-5)

| | |
|-------------|---|
| LC50 fish 1 | 54000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) |
|-------------|---|

12.2. Persistence and degradability

Ethylene glycol (107-21-1)

| | |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
| Biodegradation | > 60 % 28 days |

Glycerol (glycerin, glycerine) (56-81-5)

| | |
|-------------------------------|------------------------|
| Persistence and degradability | Readily biodegradable. |
|-------------------------------|------------------------|

12.3. Bioaccumulative potential

Ethylene glycol (107-21-1)

| | |
|---------------------------|--------------------------------|
| Log Pow | - 1.36 |
| Bioaccumulative potential | Not expected to bioaccumulate. |

Glycerol (glycerin, glycerine) (56-81-5)

| | |
|---------|--------------------|
| Log Pow | -1.75 Source: ECHA |
|---------|--------------------|

12.4. Mobility in soil

Ethylene glycol (107-21-1)

| | |
|------------------|------------------|
| Mobility in soil | 0.2 Source: HSDB |
|------------------|------------------|

SECTION 13: Disposal considerations

13.1. Waste treatment methods

| | |
|--------------------------------|--|
| Waste treatment methods | : Do not dispose in household garbage. Dispose in a safe manner in accordance with local/national regulations. |
| Waste disposal recommendations | : Dispose in a safe manner in accordance with local/national regulations. |
| Ecology - waste materials | : Avoid release to the environment. |

SECTION 14: Transport information

14.1. National and International Regulations

Transport by sea

Not regulated

Air transport

Not regulated

14.2. Other information

No data available

SECTION 15: Regulatory information

No data available

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SECTION 16: Other information

Abbreviations and acronyms:

| |
|---|
| ACGIH (American Conference of Government Industrial Hygienists) |
| CAS (Chemical Abstracts Service) number |
| CLP: Classification, Labelling, Packaging. |
| EC50: Environmental Concentration associated with a response by 50% of the test population. |
| GHS: Globally Harmonized System (of Classification and Labeling of Chemicals). |
| LD50: Lethal Dose for 50% of the test population |
| ATE: Acute Toxicity Estimate |
| TWA: Time Weighted Average |

Data sources : ACGIH (American Conference of Government Industrial Hygienists). European Chemicals Agency (ECHA) C&L Inventory database. Accessed at <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>. National Fire Protection Association; Fire Protection Guide to Hazardous Materials; 10th edition. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. Manufacturer Information. US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>.

Full text of H- and EUH-statements:

| | |
|---------------------|--|
| Acute Tox. 4 (Oral) | Acute toxicity (oral), Category 4 |
| H302 | Harmful if swallowed. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| STOT RE 2 | Specific target organ toxicity – Repeated exposure, Category 2 |

Safety Data Sheet (SDS), Malaysia

This information is based on our current knowledge and is intended to describe the product for the purposes of health, safety and environmental requirements only. It should not therefore be construed as guaranteeing any specific property of the product.



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Helaian Data Keselamatan

mengikut Peraturan: Industry Code of Practice on Chemicals Classification and Hazard Communication
Tarikh dikeluarkan: 7/09/2023 Versi: 1.0

BAHAGIAN 1: Tanda pengenalan bahan/campuran dan syarikat/pembuat

1.1. Pengecam produk

Bentuk produk : Campuran
Nama : VERSAPASS® DA Magenta

1.2. Penggunaan yang dikenal pasti relevan bagi bahan atau campuran dan yang tidak digalakkan

1.2.1. Penggunaan yang dikenal pasti relevan

Penggunaan bahan/campuran : dakwat percetakan

1.2.2. Penggunaan-penggunaan yang tidak digalakkan

Pembatasan penggunaan : Lain

1.3. Butir-butir pembekal helaian data keselamatan

Memjet Ltd.
Trintech Building
South County Business Park
Leopardstown
Dublin D18 H5H9
Ireland
T +353 1 678 0420
msds@memjet.com
www.memjet.com

1.4. Nombor panggilan kecemasan

Nombor kecemasan : Untuk Insiden Bahan Berbahaya (tumpahan, kebocoran, kebakaran, pendedahan, atau kemalangan) panggilan:
CHEMTREC: A.S. 1-800-424-9300 Antarabangsa: +1-703-527-3887
CHEMTREC (24 JAM)

BAHAGIAN 2: Pengenalan bahaya

2.1. Klasifikasi bahan atau campuran

Klasifikasi mengikut Peraturan

Tak terkelas

2.2. Unsur label

Pelabelan mengikut Peraturan

Tiada pelabelan berkenaan

BAHAGIAN 3: Komposisi/maklumat tentang bahan-bahan

3.1. Bahan

Tidak berkaitan

3.2. Campuran

| Nama | Pengecam produk | % | Klasifikasi mengikut Peraturan GHS |
|--------------------------------|-------------------|---------|--|
| Ethylene glycol | No.-CAS: 107-21-1 | 5 - <10 | Toks. Akut 4 (Oral), H302 STOT RE 2, H373 |
| Glycerol (glycerin, glycerine) | No.-CAS: 56-81-5 | 1 - <5 | Tak terkelas |

Nota : Komponen selebihnya tidak berbahaya dan / atau hadir pada jumlah di bawah had yang boleh dilaporkan.
Amaun disenaraikan sebagai julat; Peraturan komposisi yang tepat ditahan sebagai rahsia perdagangan.

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Teks penuh kenyataan H- : lihat seksyen 16

BAHAGIAN 4: Langkah-langkah pertolongan cemas

4.1. Langkah-langkah bantuan kecemasan

| | |
|---|---|
| Pertolongan cemas selepas penyedutan | : Jika dihidu dan jika bernafas sukar, keluarkan mangsa ke udara bersih dan biarkan berehat dalam kedudukan yang selesa untuk bernafas. |
| Pertolongan cemas selepas terkena kulit | : Basuh perlahan-lahan dengan sabun dan air yang banyak. |
| Pertolongan cemas selepas terkena mata | : JIKA TERKENA MATA: Bilas berhati-hati dengan air selama beberapa minit. Tanggalkan kanta lekap, jika ada dan dapat dilakukan dengan mudah. Teruskan membilas. |

4.2. Gejala dan kesan akut dan tertangguh yang paling penting

| | |
|------------------------------------|--|
| Gejala/kesan selepas terkena kulit | : Mengandungi: 1,2-benzisothiazolone. Boleh menyebabkan tindak balas alahan kulit. |
|------------------------------------|--|

4.3. Petunjuk bagi keperluan perhatian perubatan segera dan rawatan khas, jika ada

Tiada prosedur khas yang diperlukan.

BAHAGIAN 5: Langkah-langkah pemadaman kebakaran

5.1. Bahan memadamkan api

| | |
|----------------------------------|---|
| Bahan memadamkan api yang sesuai | : Gunakan media pemadam yang sesuai bagi api sekelilingnya. |
| Media pemadam tidak sesuai | : Tiada yang diketahui. |

5.2. Bahaya khusus daripada bahan kimia

| | |
|------------------|--|
| Bahaya kebakaran | : Tiada bahaya kebakaran atau letupan yang tertentu. |
| Bahaya letupan | : Produk tidak letupan. |

5.3. Nasihat untuk anggota bomba

| | |
|------------------------------------|--|
| Langkah-langkah membasmi kebakaran | : Berhati-hati apabila berjuang kebakaran kimia. Gunakan media pemadam yang sesuai bagi api sekelilingnya. |
| Perlindungan semasa kebakaran | : Jangan memasuki kawasan api tanpa peralatan perlindungan yang betul, termasuk perlindungan pernafasan. Pakai api / api pakaian tahan / perencat. Pakai alat pernafasan bebas yang. |

BAHAGIAN 6: Langkah-langkah pelepasan tidak sengaja

6.1. Tatacara perlindungan diri, kelengkapan pelindung, dan kecemasan

6.1.1. Untuk kakitangan bukan kecemasan

| | |
|--------------------|--|
| Tatacara kecemasan | : Ambil tumpahan kecil dengan penyerap kimia kering. |
|--------------------|--|

6.1.2. Untuk pasukan penyelamat

| | |
|--------------------|--|
| Tatacara kecemasan | : Ambil tumpahan kecil dengan penyerap kimia kering. |
|--------------------|--|

6.2. Langkah melindungi alam sekitar

Jangan buang ke longkang atau persekitaran.

6.3. Kaedah dan bahan untuk pembendungan dan pembersihan

| | |
|-----------------------------|---|
| Langkah-langkah pembersihan | : Tumpahan cecair yang sedikit: pungut dengan bahan penyerap tidak boleh bakar, dan kaut ke dalam bekas untuk dilupuskan. |
|-----------------------------|---|

6.4. Rujukan kepada seksyen lain

Seksyen 7: pengendalian selamat. Seksyen 8: peralatan pelindung diri. Seksyen 13: maklumat pelupusan.

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BAHAGIAN 7: Pengendalian dan penyimpanan

7.1. Langkah berjaga-jaga untuk pengendalian yang selamat

Langkah berjaga-jaga untuk pengendalian yang selamat : Elakkan bersentuhan dengan kulit, mata dan pakaian.

Langkah-langkah higien : Basuh kedua tangan, lengan dan muka sebersih-bersihnya selepas mengendalikan bahan.

7.2. Keadaan penyimpanan selamat, termasuk apa-apa ketakserasian

Keadaan penyimpanan : Simpan dalam bekas yang asal.

Produk tak serasi : Tiada yang diketahui.

BAHAGIAN 8: Kawalan pendedahan dan perlindungan diri

8.1. Parameter kawalan

| Ethylene glycol (107-21-1) | |
|--|--|
| Had Pendedahan Pekerjaan | |
| Had siling (mg/m ³) | 100 mg/m ³ aerosol |
| Had siling (ppm) | 39.4 ppm aerosol |
| Regulatory reference | PERATURAN-PERATURAN KESELAMATAN DAN KESIHATAN PEKERJAAN (PENGUNAAN DAN PIAWAIAN PENDEDAHAN BAHAN KIMIA BERBAHAYA KEPADA KESIHATAN) |
| Glycerol (glycerin, glycerine) (56-81-5) | |
| Had Pendedahan Pekerjaan | |
| OEL (8 hours ref) (mg/m ³) | 10 mg/m ³ |
| Regulatory reference | PERATURAN-PERATURAN KESELAMATAN DAN KESIHATAN PEKERJAAN (PENGUNAAN DAN PIAWAIAN PENDEDAHAN BAHAN KIMIA BERBAHAYA KEPADA KESIHATAN) |

8.2. Kawalan pendedahan

Kawalan kejuruteraan yang sesuai:

Tiada amalan kerja khas diperlukan di luar cadangan di atas di bawah keadaan yang dijangka penggunaan normal.

8.2.2. Peralatan perlindungan diri

Perlindungan mata:

Tiada di bawah penggunaan biasa

Perlindungan tangan:

sarung tangan getah nitril

Perlindungan pernafasan:

Tiada di bawah penggunaan biasa

BAHAGIAN 9: Sifat fizikal dan kimia

9.1. Maklumat penting tentang sifat-sifat fizikal dan kimia

| | |
|-----------------|------------------|
| Keadaan fizikal | : Cecair |
| Warna | : Merah |
| Rupa | : Merah Cecair. |
| Bau | : Tiada terdapat |
| Ambang bau | : Tiada terdapat |
| Takat lebur | : Tiada terdapat |
| Takat beku | : Tiada terdapat |
| Takat didih | : Tiada terdapat |
| Kemudahbakaran | : Tiada terdapat |
| Had letupan | : Tiada terdapat |

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| | |
|----------------------------------|--------------------------|
| Had letupan bawah | : Tiada terdapat |
| Had letupan tinggi (UEL) | : Tiada terdapat |
| Takat kilat | : Tiada terdapat |
| Suhu pengautocucuhan | : Tiada terdapat |
| Suhu penguraian | : Tiada terdapat |
| pH | : 7.5 |
| Kelikatan, kinematik | : Tiada terdapat |
| Kelarutan | : Terlarut di dalam air. |
| Log Kow | : Tiada terdapat |
| Tekanan wap | : Tiada terdapat |
| Tekanan wap pada 50°C | : Tiada terdapat |
| Ketumpatan | : Tiada terdapat |
| Ketumpatan bandingan | : Tiada terdapat |
| Ketumpatan wap relatif pada 20°C | : Tiada terdapat |

9.2. Maklumat lain

9.2.1. Maklumat berkenaan dengan kelas fizikal bahaya

Tiada maklumat tambahan didapati

9.2.2. Ciri keselamatan lain

Tiada maklumat tambahan didapati

BAHAGIAN 10: Kestabilan dan kereaktifan

10.1. Kereaktifan

Tiada tindak balas berbahaya yang diketahui.

10.2. Kestabilan kimia

Produk ini stabil dalam keadaan pengendalian dan penyimpanan normal.

10.3. Kemungkinan tindak balas berbahaya

Pempolimeran berbahaya tidak akan berlaku.

10.4. Keadaan yang perlu dielakkan

Tiada yang diketahui.

10.5. Bahan tidak serasi

Tiada yang diketahui.

10.6. Produk penguraian berbahaya

Tiada maklumat tambahan didapati

BAHAGIAN 11: Maklumat toksikologi

11.1. Maklumat tentang kesan ketoksikan

| | |
|------------------------------|---|
| Ketoksikan akut (oral) | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Ketoksikan akut (kulit) | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Ketoksikan akut (penyedutan) | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |

| Ethylene glycol (107-21-1) | |
|---------------------------------------|-------------------------|
| LD50 Mulut tikus | 7712 mg/kg Source: ECHA |
| LD50 kulit tikus | > 3500 mg/kg |
| LC50 Penyedutan tikus | > 2.5 mg/l/4h |
| LC50 Penyedutan tikus (habuk / kabus) | > 2.5 mg/l/4h |
| LC50 Penyedutan tikus (wap) | > 2.5 mg/l/4h |
| ATE (melalui mulut) | 500 mg/kg berat badan |

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Helaian Data Keselamatan

mengikut Peraturan: Industry Code of Practice on Chemicals Classification and Hazard Communication

| Glycerol (glycerin, glycerine) (56-81-5) | |
|--|---|
| LD50 Mulut tikus | 12600 mg/kg berat badan Animal: rat, Animal sex: female |
| LD50 kulit arnab | > 10000 mg/kg |
| LC50 Penyedutan tikus (wap) | > 2.75 mg/l Source: ECHA |
| ATE (melalui mulut) | 12600 mg/kg berat badan |

| | |
|---|---|
| Kakisan/ kerengsaan kulit | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Kerosakan/ kerengsaan mata yang serius | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Pemekaan pernafasan atau kulit | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Kemutagenan sel germa | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Kekarsinogenan | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Ketoksikan pembiakan | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Ketoksikan organ sasaran khusus (pendedahan tunggal) | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Ketoksikan organ sasaran khusus (pendedahan berulang) | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |

| Ethylene glycol (107-21-1) | |
|---|--|
| LOAEL (melalui mulut, tikus, 90 hari) | 1000 mg/kg berat badan/hari |
| NOAEL (melalui mulut, tikus, 90 hari) | 150 mg/kg berat badan/hari buah pinggang |
| Ketoksikan organ sasaran khusus (pendedahan berulang) | Boleh menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang. |

| | |
|-----------------|---|
| Bahaya aspirasi | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
|-----------------|---|

Maklumat lain: Kemungkinan laluan pendedahan: penyedutan, kulit dan mata.

11.2. Maklumat mengenai bahaya lain

Tiada maklumat tambahan didapati

BAHAGIAN 12: Maklumat ekologi

12.1. Ketoksikan

| | |
|---------------------------|---|
| Ketoksikan akuatik akut | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |
| Ketoksikan akuatik kronik | : Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) |

| Ethylene glycol (107-21-1) | |
|----------------------------|---|
| LC50 ikan 1 | 72860 mg/l Pimephales promelas |
| EC50 crustacea | > 100 mg/l Daphnia magna |
| EC50 96h - Ganggang [1] | 3536 mg/l green algae |
| EC50 96h - Ganggang [2] | 6500 – 13000 mg/l Pseudokirchneriella subcapitata |
| NOEC (kronik) | ≥ 1000 mg/l Americamysis bahia, 23 d |
| NOEC kronik ikan | 15380 mg/l Pimephales promelas |
| NOEC kronik krustasea | 8590 mg/l Ceriodaphnia sp. |

| Glycerol (glycerin, glycerine) (56-81-5) | |
|--|---|
| LC50 ikan 1 | 54000 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) |

12.2. Keselajaran dan keterdegradan

| Ethylene glycol (107-21-1) | |
|-------------------------------|-------------------------------|
| Keselajaran dan keterdegradan | Terbiodegradasi dengan mudah. |

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Ethylene glycol (107-21-1)

| | |
|--------------|----------------|
| Biodegradasi | > 60 % 28 hari |
|--------------|----------------|

Glycerol (glycerin, glycerine) (56-81-5)

| | |
|--------------------------------|-------------------------------|
| Keselantaran dan keterdegradan | Terbiodegradasi dengan mudah. |
|--------------------------------|-------------------------------|

12.3. Potensi bioterkumpul

Ethylene glycol (107-21-1)

| | |
|---------|--------|
| Log Pow | - 1.36 |
|---------|--------|

| | |
|----------------------|-------------------------------|
| Potensi bioterkumpul | Tidak dijangka bioaccumulate. |
|----------------------|-------------------------------|

Glycerol (glycerin, glycerine) (56-81-5)

| | |
|---------|--------------------|
| Log Pow | -1.75 Source: ECHA |
|---------|--------------------|

12.4. Kebolehergerakan di dalam tanah

Ethylene glycol (107-21-1)

| | |
|---------------------------------|------------------|
| Kebolehergerakan di dalam tanah | 0.2 Source: HSDB |
|---------------------------------|------------------|

12.5. Hasil penilaian PBT dan vPvB

Komponen

| | |
|----------------------------|---|
| Ethylene glycol (107-21-1) | Bahan/campuran ini tidak memenuhi kriteria PBT peraturan REACH lampiran XIII Bahan/campuran ini tidak memenuhi kriteria vPvB peraturan REACH lampiran XIII |
|----------------------------|---|

| | |
|--|---|
| Glycerol (glycerin, glycerine) (56-81-5) | Bahan/campuran ini tidak memenuhi kriteria PBT peraturan REACH lampiran XIII Bahan/campuran ini tidak memenuhi kriteria vPvB peraturan REACH lampiran XIII |
|--|---|

12.6. Sifat mengganggu endokrin

Kesan buruk terhadap persekitaran yang disebabkan oleh sifat mengganggu endokrin : Tiada yang diketahui.

12.7. Kesan mudarat yang lain

Tiada maklumat tambahan didapati

BAHAGIAN 13: Langkah-langkah pelupusan

13.1. Kaedah rawatan sisa

| | |
|-------------------------|---|
| Kaedah rawatan sisa | : Jangan lupuskan bersama sampah sarap rumah. Melupuskan dengan cara yang selamat mengikut peraturan-peraturan tempatan / kebangsaan. |
| Cadangan pelupusan sisa | : Melupuskan dengan cara yang selamat mengikut peraturan-peraturan tempatan / kebangsaan. |
| Ekologi - sisa | : Elakkan pelepasan bahan ke persekitaran. |

BAHAGIAN 14: Maklumat pengangkutan

14.1 Peraturan Negara dan antarabangsa

Pengangkutan laut

Tidak dikawal selia.

Pengangkutan udara

Tidak dikawal selia.

14.2. Maklumat lain

Tidak berkaitan

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BAHAGIAN 15: Maklumat pengawalseliaan

Tiada maklumat tambahan didapati

BAHAGIAN 16: Maklumat lain

| Singkatan dan akronim: | |
|---|--|
| ACGIH (Persidangan Juruhigin Industri Kerajaan Amerika) | |
| Nombor CAS (Perkhidmatan Sari Kimia) | |
| CLP: Pengelasan, Pelabelan, Pembungkusan. | |
| EC50: Kepekatan Alam Sekitar dikaitkan dengan tindak balas 50% daripada populasi ujian. | |
| GHS: Sistem Terharmoni Global (Klasifikasi dan Pelabelan Bahan Kimia). | |
| LD50: Dos Maut untuk 50% daripada populasi ujian | |
| ATE: Anggaran Ketoksikan Akut | |
| TWA: Purata Berwajaran Masa | |

Sumber data : ACGIH (Persidangan Juruhigin Industri Kerajaan Amerika). Pangkalan data Inventori C&L Agensi Bahan Kimia Eropah (ECHA). Boleh diakses di <http://echa.europa.eu/web/guest/information-on-chemicals/cl-inventory-database>. Persatuan Perlindungan Kebakaran Negara; Fire Protection Guide to Hazardous Materials; Edisi Ke-10. Krister Forsberg and S.Z. Mansdorf, "Quick Selection Guide to Chemical Protective Clothing", Fifth Edition. Maklumat pembuat. US National Library of Medicine National Institutes of Health Haz-Map. Accessed at <http://hazmap.nlm.nih.gov>.

| Teks lengkap bagi frasa-frasa H dan EUH: | |
|--|--|
| H302 | Memudaratkan jika tertelan |
| H373 | Boleh menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang. |
| STOT RE 2 | Ketoksikan organ sasaran khusus - Pendedahan berulang, Kategori 2 |
| Toks. Akut 4 (Oral) | Ketoksikan akut (oral), Kategori 4 |

Helaian Data Keselamatan (SDS), Malaysia

Maklumat ini adalah berdasarkan pengetahuan semasa kami dan keterangan produk diberikan semata-mata untuk tujuan kesihatan, keselamatan dan persekitaran. Ia tidak harus dianggap sebagai menjamin sebarang sifat tertentu produk