



VERSAPASS® DA Black

Safety Data Sheet

according to Industry Code of Practice on Chemicals Classification and Hazard Communication
Issue date: 8/4/2023 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 Black
Use of the substance/mixture : printing inks
Restrictions on use : Other

1.2. 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

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

Chemical product not classified as hazardous

2.2. Label elements

Labelling

No labelling obligation

2.3. Other hazards

Not applicable

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification
Ethylene glycol	CAS-No.: 107-21-1	5 - <10	Acute Tox. 4 (Oral), H302 STOT RE 2, H373
Glycerol (glycerin, glycerine)	CAS-No.: 56-81-5	1 - <5	Not classified
Sulfonated azo dye	CAS-No.: 1422649-48-6	0.1 - <0.8	Skin Sens. 1, H317

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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 : 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.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Avoid contact with skin, eyes and clothing.

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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.

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

Appropriate engineering controls:

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

8.2. Personal protection equipment

Eye protection:

None under normal use

Hand protection:

nitrile rubber gloves.

Respiratory protection:

None under normal use

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Black.
Appearance	: Black 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

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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 as defined in Regulation (EC) No 1272/2008

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

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

LD50 Oral rat	12600 mg/kg bodyweight Animal: rat, Animal sex: female
LD50 Dermal rabbit	> 10000 mg/kg
LC50 Inhalation rat (vapours)	> 2.75 mg/l Source: ECHA

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Sulfonated azo dye (1422649-48-6)	
LD50 Oral rat	> 2000 mg/kg bodyweight No mortality. OECD 423.
LD50 Dermal rat	> 2000 mg/kg No mortality. OECD 402.
LC50 Inhalation rat (dust/mist)	5.1 mg/l/4h No mortality. OECD 403.

Skin corrosion/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7.5
Serious eye damage/irritation	: Not classified (Based on available data, the classification criteria are not met) pH: 7.5
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)
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Other information: 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.

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.

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Ethylene glycol (107-21-1)

Biodegradation	> 60 % 28 days
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Glycerol (glycerin, glycerine) (56-81-5)

Persistence and degradability	Readily biodegradable.
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12.3. Bioaccumulative potential

Ethylene glycol (107-21-1)

Log Pow	- 1.36
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Bioaccumulative potential	Not expected to bioaccumulate.
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Glycerol (glycerin, glycerine) (56-81-5)

Log Pow	-1.75 Source: ECHA
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12.4. Mobility in soil

Ethylene glycol (107-21-1)

Mobility in soil	0.2 Source: HSDB
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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

SECTION 16: Other information

Abbreviations and acronyms:

ACGIH (American Conference of Government Industrial Hygienists)

ATE Acute Toxicity Estimate

CAS (Chemical Abstracts Service) number

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Abbreviations and acronyms:

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
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- statements:

Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
H317	May cause an allergic skin reaction.
H373	May cause damage to organs through prolonged or repeated exposure.
Skin Sens. 1	Skin sensitisation, Category 1
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2

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.



VERSAPASS® DA Black

Helaian Data Keselamatan

Industry Code of Practice on Chemicals Classification and Hazard Communication
Tarikh dikeluarkan : 24/08/2023 Versi: 1.0

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

1.1. Pengecam produk

Bentuk produk : Campuran
Nama : VERSAPASS® DA Black

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

Tak terkelas

2.2. Unsur label

Tidak tertakluk kepada pelabelan

BAHAGIAN 3: Komposisi/maklumat tentang bahan-bahan

3.1. Bahan

Tidak berkaitan

3.2. Campuran

Nama	Pengecam produk	%	Klasifikasi
Ethylene glycol	No.-CAS: 107-21-1	5 - <10	Toks. Akut 4 (Oral), H302 STOT RE 2, H373
Glycerol (glycerin, glycerine)	CAS-No.: 56-81-5	1 - <5	Tak terkelas
Sulfur azo dye	No.-CAS: 1422649-48-6	0.1 - <0.8	Pem. Kulit 1, H317

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

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 : 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 Pekerja	
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 Pekerja	
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 : Hitam.
Rupa : Hitam 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

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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

Sulfur azo dye (1422649-48-6)

LD50 Mulut tikus	> 2000 mg/kg berat badan Tiada kematian. OECD 423
LD50 kulit tikus	> 2000 mg/kg Tiada kematian. OECD 402
LC50 Penyedutan tikus (habuk / kabus)	5.1 mg/l/4h Tiada kematian. OECD 403.

Kakisan/ kerengsaan kulit	: Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) pH: 7.5
Kerosakan/ kerengsaan mata yang serius	: Tak terkelas (Berdasarkan data yang ada, kriteria klasifikasi tidak dipenuhi) pH: 7.5
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)
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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.

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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.
Biodegradasi	> 60 % 28 hari

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

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

BAHAGIAN 15: Maklumat pengawalseliaan

Tiada maklumat tambahan didapati

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BAHAGIAN 16: Maklumat lain

Singkatan dan akronim:	
ACGIH (Persidangan Juruhigin Industri Kerajaan Amerika)	
ATE Anggaran Ketoksikan Akut	
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	
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:	
H302	Memudaratkan jika tertelan
H317	Boleh menyebabkan tindak balas alahan kulit.
H373	Boleh menyebabkan kerosakan organ melalui pendedahan berpanjangan atau berulang.
Pem. Kulit 1	Pemekaan kulit, Kategori 1
STOT RE 2	Ketoksikan organ sasaran khusus - Pendedahan berulang, Kategori 2
Toks. Akut 4 (Oral)	Ketoksikan akut (oral), Kategori 4

Helaian Data Keselamatan (SDS)

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