



SAFETY DATA SHEET DOWANOL PB 29 GLYCOL ETHER

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

1.1. Product identifier

Product name DOWANOL PB 29 GLYCOL ETHER

Product number 10623

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

Identified uses Chemical

1.3. Details of the supplier of the safety data sheet

Supplier

Univar
Aquarius House
6 Mid Point Business Park
Bradford
BD3 7AY
+44 1274 267300
sds@univar.com
+44 1274 267306

1.4. Emergency telephone number

Emergency telephone SGS - +32 (0)3 575 55 55 (24h)

Sds No. 10623

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Classification (EC 1272/2008)

Physical hazards Flam. Liq. 3 - H226

Health hazards Skin Irrit. 2 - H315 Eye Irrit. 2 - H319 STOT SE 3 - H336

Environmental hazards Not Classified

Classification (67/548/EEC or 1999/45/EC) Xi;R36/38. R10,R67.

2.2. Label elements

Pictogram



Signal word

Warning

DOWANOL PB 29 GLYCOL ETHER

Hazard statements	H226 Flammable liquid and vapour. H315 Causes skin irritation. H319 Causes serious eye irritation. H336 May cause drowsiness or dizziness.
Precautionary statements	P210 Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. P261 Avoid breathing vapour/ spray. P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. P501 Dispose of contents/ container in accordance with local regulations.
Contains	1-METHOXY-2-PROPANOL

2.3. Other hazards

This product does not contain any substances classified as PBT or vPvB.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

1-METHOXY-2-PROPANOL			30-60%
CAS number: 107-98-2	EC number: 203-539-1	REACH registration number: 01-2119457435-35-XXXX	
Classification Flam. Liq. 3 - H226 STOT SE 3 - H336	Classification (67/548/EEC or 1999/45/EC) R10, R67		

3-BUTOXYPROPAN-2-OL			30-60%
CAS number: 5131-66-8	EC number: 225-878-4	REACH registration number: 01-2119475527-28-XXXX	
Classification Skin Irrit. 2 - H315 Eye Irrit. 2 - H319	Classification (67/548/EEC or 1999/45/EC) Xi; R36/38		

2-METHOXYPROPANOL			< 0.3%
CAS number: 1589-47-5	EC number: 216-455-5		
Classification Flam. Liq. 3 - H226 Skin Irrit. 2 - H315 Eye Dam. 1 - H318 Repr. 1B - H360D STOT SE 3 - H335	Classification (67/548/EEC or 1999/45/EC) R10 Repr. Cat. 2;R61 Xi;R37/38,R41		

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition comments The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

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Inhalation	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Get medical attention if any discomfort continues.
Ingestion	Move affected person to fresh air and keep warm and at rest in a position comfortable for breathing. Rinse mouth thoroughly with water. Give plenty of water to drink. Get medical attention if symptoms are severe or persist.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Rinse immediately with plenty of water. Remove any contact lenses and open eyelids wide apart. Continue to rinse for at least 15 minutes. Get medical attention promptly if symptoms occur after washing.

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

Inhalation	Vapours may cause drowsiness and dizziness.
Skin contact	Skin irritation.
Eye contact	Irritation of eyes and mucous membranes.

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

Notes for the doctor	Treat symptomatically.
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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media	Extinguish with alcohol-resistant foam, carbon dioxide, dry powder or water fog.
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5.2. Special hazards arising from the substance or mixture

Specific hazards	The product is flammable.
Hazardous combustion products	Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

5.3. Advice for firefighters

Special protective equipment for firefighters	Wear positive-pressure self-contained breathing apparatus (SCBA) and appropriate protective clothing.
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SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions	Follow precautions for safe handling described in this safety data sheet. Avoid contact with skin and eyes. Provide adequate ventilation.
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6.2. Environmental precautions

Environmental precautions	Spillages or uncontrolled discharges into watercourses must be reported immediately to the Environmental Agency or other appropriate regulatory body.
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6.3. Methods and material for containment and cleaning up

Methods for cleaning up	Absorb spillage with inert, damp, non-combustible material. Flush contaminated area with plenty of water. Collect and place in suitable waste disposal containers and seal securely.
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6.4. Reference to other sections

Reference to other sections	For personal protection, see Section 8. For waste disposal, see Section 13.
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SECTION 7: Handling and storage

7.1. Precautions for safe handling

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Usage precautions Avoid spilling, skin and eye contact. Avoid inhalation of vapours and spray/mists. Keep away from heat, sparks and open flame. Static electricity and formation of sparks must be prevented. Provide adequate ventilation.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions Store in tightly-closed, original container in a dry, cool and well-ventilated place. Keep away from heat, sparks and open flame.

Storage class Flammable liquid storage.

7.3. Specific end use(s)

Specific end use(s) The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

1-METHOXY-2-PROPANOL

Sk

Long-term exposure limit (8-hour TWA): WEL 100 ppm 375 mg/m³

Short-term exposure limit (15-minute): WEL 150 ppm 560 mg/m³

3-BUTOXYPROPAN-2-OL

Long-term exposure limit (8-hour TWA): IHL 10 ppm

Sk = Can be absorbed through the skin.

WEL = Workplace Exposure Limit

1-METHOXY-2-PROPANOL (CAS: 107-98-2)

DNEL	Workers - Inhalation; Long term systemic effects: 369 mg/m³ Workers - Inhalation; Short term local effects: 553.5 mg/m³ Workers - Dermal; Long term systemic effects: 50.6 mg/kg/day General population - Inhalation; Long term systemic effects: 43.9 mg/m³ General population - Dermal; Long term systemic effects: 18.1 mg/kg/day General population - Oral; Long term systemic effects: 3.3 mg/kg/day
PNEC	- Fresh water; 10 mg/l - Marine water; 1 mg/l - Intermittent release; 100 mg/l - STP; 100 mg/l - Sediment (Freshwater); 52.3 mg/kg - Sediment (Marinewater); 5.2 mg/kg - Soil; 5.49 mg/kg

3-BUTOXYPROPAN-2-OL (CAS: 5131-66-8)

DNEL	Industry - Dermal; Long term : 44 mg/kg/day Industry - Inhalation; Long term : 270.5 mg/m³ Consumer - Dermal; Long term : 16 mg/kg/day Consumer - Inhalation; Long term : 33.8 mg/m³ Consumer - Oral; Long term : 8.75 mg/kg/day
PNEC	- Fresh water; 0.525 mg/l - Marine water; 0.0525 mg/l - STP; 10 mg/l - Soil; 0.16 mg/l

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8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate general and local exhaust ventilation. Observe any occupational exposure limits for the product or ingredients.

Eye/face protection

The following protection should be worn: Chemical splash goggles. Personal protective equipment for eye and face protection should comply with European Standard EN166.

Hand protection

The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. Wear protective gloves. Butyl rubber. To protect hands from chemicals, gloves should comply with European Standard EN374.

Other skin and body protection

Wear appropriate clothing to prevent any possibility of skin contact.

Hygiene measures

Do not eat, drink or smoke when using this product.

Respiratory protection

If ventilation is inadequate, suitable respiratory protection must be worn. Gas filter, type A2. EN 136/140/145/143/149

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear liquid.
Colour	Colourless.
Odour	Ether.
Odour threshold	Not available. Not available.
pH	Not available.
Melting point	Not available.
Initial boiling point and range	117 - 174°C @
Flash point	40°C PMCC (Pensky-Martens closed cup).
Evaporation rate	Not available.
Evaporation factor	Not available.
Flammability (solid, gas)	No information available.
Upper/lower flammability or explosive limits	Not available.
Other flammability	No information available.
Vapour pressure	<7.5 mbar @ °C
Vapour density	Not available.
Relative density	0.89 @ 20°C
Bulk density	No information available.
Solubility(ies)	Not available. Slightly soluble in water.

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Partition coefficient	: <1.2
Auto-ignition temperature	260°C
Decomposition Temperature	Not available.
Viscosity	Not available.
Explosive properties	Not available.
Explosive under the influence of a flame	No information available.
Oxidising properties	Not available.

9.2. Other information

Other information	Not determined.
Refractive index	No information available.
Particle size	No information available.
Molecular weight	No information available.
Volatility	No information available.
Saturation concentration	No information available.
Critical temperature	No information available.
Volatile organic compound	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity	There are no known reactivity hazards associated with this product.
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10.2. Chemical stability

Stability	Stable at normal ambient temperatures and when used as recommended.
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10.3. Possibility of hazardous reactions

Possibility of hazardous reactions	Not determined.
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10.4. Conditions to avoid

Conditions to avoid	Avoid excessive heat for prolonged periods of time.
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10.5. Incompatible materials

Materials to avoid	Strong oxidising agents.
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10.6. Hazardous decomposition products

Hazardous decomposition products	Oxides of carbon.
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SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity - oral

Notes (oral LD ₅₀)	LD ₅₀ >3000 mg/kg, Oral, Rat
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Skin corrosion/irritation

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Animal data	No information available.
Extreme pH	Not available.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	Not available.
<u>Respiratory sensitisation</u>	
Respiratory sensitisation	Not available.
<u>Skin sensitisation</u>	
Skin sensitisation	Data lacking.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Not available.
<u>Carcinogenicity</u>	
Carcinogenicity	Not available.
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	Not available.
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	Not available.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	Not available.
<u>Aspiration hazard</u>	
Aspiration hazard	Not available.
Inhalation	Upper respiratory irritation. Vapours may cause drowsiness and dizziness.
Ingestion	May cause stomach pain or vomiting.
Skin contact	Irritating to skin.
Eye contact	Irritating to eyes.

1-METHOXY-2-PROPANOL

Acute toxicity - oral

Acute toxicity oral (LD₅₀ mg/kg) 4,016.0

Species Rat

ATE oral (mg/kg) 4,016.0

Acute toxicity - dermal

Notes (dermal LD₅₀) LD₅₀ > 2000 mg/kg, Dermal, Rat

Acute toxicity - inhalation

Notes (inhalation LC₅₀) LC₅₀ 28.8 mg/l, Inhalation, Rat

Skin corrosion/irritation

Skin corrosion/irritation Not irritating.

Serious eye damage/irritation

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Serious eye damage/irritation	Not irritating.
<u>Skin sensitisation</u>	
Skin sensitisation	Guinea pig maximization test (GPMT) - : Not sensitising.
<u>Germ cell mutagenicity</u>	
Genotoxicity - in vitro	Bacterial reverse mutation test: Negative.
Genotoxicity - in vivo	Chromosome aberration: Negative. Mouse
<u>Carcinogenicity</u>	
Carcinogenicity	No evidence of carcinogenicity in animal studies. OECD 453 , Inhalation, Rat
<u>Reproductive toxicity</u>	
Reproductive toxicity - fertility	No evidence of reproductive toxicity in animal studies. Two-generation study - , Inhalation, Rat
Reproductive toxicity - development	No evidence of reproductive toxicity in animal studies. Developmental toxicity: - : , Inhalation, Rat
<u>Specific target organ toxicity - single exposure</u>	
STOT - single exposure	May cause drowsiness or dizziness.
<u>Specific target organ toxicity - repeated exposure</u>	
STOT - repeated exposure	NOAEL 919 mg/kg, Oral, Rat NOAEL 3.7 mg/l, Inhalation, Rat NOAEL > 1000 mg/kg, Dermal, Rabbit

3-BUTOXYPROPAN-2-OL

<u>Acute toxicity - oral</u>	
Acute toxicity oral (LD₅₀ mg/kg)	3,300.0
Species	Rat
<u>Acute toxicity - dermal</u>	
Acute toxicity dermal (LD₅₀ mg/kg)	2,000.0
Species	Rat
<u>Acute toxicity - inhalation</u>	
Acute toxicity inhalation (LC₅₀ vapours mg/l)	3.5
Species	Rat
ATE inhalation (vapours mg/l)	3.5
<u>Skin corrosion/irritation</u>	
Animal data	No information available.
<u>Serious eye damage/irritation</u>	
Serious eye damage/irritation	No information available.

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Respiratory sensitisation

Respiratory sensitisation No information available.

Skin sensitisation

Skin sensitisation No information available.

Germ cell mutagenicity

Genotoxicity - in vitro No information available.

Carcinogenicity

Carcinogenicity No information available.

Reproductive toxicity

Reproductive toxicity - fertility No information available.

Specific target organ toxicity - single exposure

STOT - single exposure No information available.

Specific target organ toxicity - repeated exposure

STOT - repeated exposure No information available.

Aspiration hazard

Aspiration hazard No information available.

Inhalation May cause respiratory system irritation.

Ingestion Gastrointestinal symptoms, including upset stomach.

Skin contact Irritating to skin.

Eye contact Irritating to eyes.

SECTION 12: Ecological Information

Ecotoxicity The product is not expected to be hazardous to the environment.

3-BUTOXYPROPAN-2-OL

Ecotoxicity The product components are not classified as environmentally hazardous.
However, large or frequent spills may have hazardous effects on the environment.

12.1. Toxicity

Toxicity Not considered toxic to fish.

Acute toxicity - fish LC₅₀, 96 hours: >500 mg/l, Algae

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: >1000 mg/l, Daphnia magna

1-METHOXY-2-PROPANOL

Acute toxicity - fish LC₅₀, 96 hours: 4600-10000 mg/l, Fish

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: 23300 mg/l, Daphnia magna

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Acute toxicity - aquatic plants EC₅₀, 96 hours: > 1000 mg/l, *Selenastrum capricornutum*

Acute toxicity - microorganisms IC₅₀, 3 hour: > 1000 mg/l,
OECD 209

3-BUTOXYPROPAN-2-OL

Acute toxicity - fish LC50, 96 hours: > 560 mg/l, *Poecilia reticulata* (Guppy)

Acute toxicity - aquatic invertebrates EC₅₀, 48 hours: > 1000 mg/l, *Daphnia magna*

12.2. Persistence and degradability

Persistence and degradability The product is expected to be biodegradable.

1-METHOXY-2-PROPANOL

Persistence and degradability The product is readily biodegradable.

Biodegradation - Degradation 96%: 28 day
OECD 301E

3-BUTOXYPROPAN-2-OL

Persistence and degradability The product is readily biodegradable.

12.3. Bioaccumulative potential

Bioaccumulative potential Bioaccumulation is unlikely.

Partition coefficient : <1.2

1-METHOXY-2-PROPANOL

Partition coefficient : -0.49

3-BUTOXYPROPAN-2-OL

Bioaccumulative potential The product does not contain any substances expected to be bioaccumulating.

Partition coefficient : 1.2

12.4. Mobility in soil

Mobility The product has poor water-solubility.

3-BUTOXYPROPAN-2-OL

Mobility The product is soluble in water.

12.5. Results of PBT and vPvB assessment

Results of PBT and vPvB assessment This product does not contain any substances classified as PBT or vPvB.

1-METHOXY-2-PROPANOL

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Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

3-BUTOXYPROPAN-2-OL

Results of PBT and vPvB assessment This substance is not classified as PBT or vPvB according to current EU criteria.

12.6. Other adverse effects

Other adverse effects Not determined.

3-BUTOXYPROPAN-2-OL

Other adverse effects No information required.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General information	Waste is classified as hazardous waste. Do not puncture or incinerate, even when empty.
Disposal methods	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.

SECTION 14: Transport information

General Wear protective clothing as described in Section 8 of this safety data sheet.

14.1. UN number

UN No. (ADR/RID)	1993
UN No. (IMDG)	1993
UN No. (ICAO)	1993
UN No. (ADN)	1993

14.2. UN proper shipping name

Proper shipping name (ADR/RID)	FLAMMABLE LIQUID, N.O.S. (CONTAINS 1-METHOXY-2-PROPANOL, 2-METHOXYPROPANOL)
Proper shipping name (IMDG)	FLAMMABLE LIQUID, N.O.S. (CONTAINS 1-METHOXY-2-PROPANOL, 2-METHOXYPROPANOL)
Proper shipping name (ICAO)	FLAMMABLE LIQUID, N.O.S. (CONTAINS 1-METHOXY-2-PROPANOL, 2-METHOXYPROPANOL)
Proper shipping name (ADN)	FLAMMABLE LIQUID, N.O.S. (CONTAINS 1-METHOXY-2-PROPANOL, 2-METHOXYPROPANOL)

14.3. Transport hazard class(es)

ADR/RID class	3
ADR/RID classification code	F1
ADR/RID label	3
IMDG class	3
ICAO class/division	3
ADN class	3

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Transport labels



14.4. Packing group

ADR/RID packing group	III
IMDG packing group	III
ADN packing group	III
ICAO packing group	III

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant
No.

14.6. Special precautions for user

EmS	F-E, S-E
ADR transport category	3
Emergency Action Code	•3Y
Hazard Identification Number (ADR/RID)	30
Tunnel restriction code	(D/E)

14.7. Transport in bulk according to Annex II of MARPOL and the IBC Code

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code Not applicable.

SECTION 15: Regulatory information

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

EU legislation	Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended). Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended). Commission Regulation (EU) No 2015/830 of 28 May 2015. This product may impact SEVESO storage regulations.
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15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

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Abbreviations and acronyms used in the safety data sheet

ATE: Acute Toxicity Estimate.
 ADR: European Agreement concerning the International Carriage of Dangerous Goods by Road.
 ADN: European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways.
 CAS: Chemical Abstracts Service.
 DNEL: Derived No Effect Level.
 IATA: International Air Transport Association.
 IMDG: International Maritime Dangerous Goods.
 Kow: Octanol-water partition coefficient.
 LC₅₀: Lethal Concentration to 50 % of a test population.
 LD₅₀: Lethal Dose to 50% of a test population (Median Lethal Dose).
 PBT: Persistent, Bioaccumulative and Toxic substance.
 PNEC: Predicted No Effect Concentration.
 REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.
 RID: European Agreement concerning the International Carriage of Dangerous Goods by Rail.
 vPvB: Very Persistent and Very Bioaccumulative.
 IARC: International Agency for Research on Cancer.
 MARPOL 73/78: International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978.
 cATpE: Converted Acute Toxicity Point Estimate.
 BCF: Bioconcentration Factor.
 BOD: Biochemical Oxygen Demand.
 EC₅₀: 50% of maximal Effective Concentration.
 LOAEC: Lowest Observed Adverse Effect Concentration.
 LOAEL: Lowest Observed Adverse Effect Level.
 NOAEC: No Observed Adverse Effect Concentration.
 NOAEL: No Observed Adverse Effect Level.
 NOEC: No Observed Effect Concentration.
 LOEC: Lowest Observed Effect Concentration.
 DMEL: Derived Minimal Effect Level.
 EL50: Exposure Limit 50
 hPa: Hectopascal
 LL50: Lethal Loading fifty
 OECD: Organisation for Economic Co-operation and Development
 POW: Octanol-water partition coefficient
 SCBA: self-contained breathing apparatus
 STP: Sewage Treatment Plant
 VOC: Volatile Organic Compounds

Classification abbreviations and acronyms

Acute Tox. = Acute toxicity
 Aquatic Acute = Hazardous to the aquatic environment (acute)
 Aquatic Chronic = Hazardous to the aquatic environment (chronic)

Key literature references and sources for data

Supplier's information.

Revision comments

NOTE: Lines within the margin indicate significant changes from the previous revision.

Revision date

26/06/2017

Revision

06

Supersedes date

28/07/2015

SDS number

10623

DOWANOL PB 29 GLYCOL ETHER

Version number	1.001
SDS status	Approved.
Signature	Jitendra Panchal
Risk phrases in full	R10 Flammable. R36/38 Irritating to eyes and skin. R37/38 Irritating to respiratory system and skin. R41 Risk of serious damage to eyes. R61 May cause harm to the unborn child. R67 Vapours may cause drowsiness and dizziness.
Hazard statements in full	H226 Flammable liquid and vapour. H315 Causes skin irritation. H318 Causes serious eye damage. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H336 May cause drowsiness or dizziness. H360D May damage the unborn child.