

Safety Data Sheet

according to the WHS Regulations Issue date: 14/02/2023 Version: 1.0

SECTION 1: Product identifier

1.1. GHS Product identifier

Product form : Mixture
Product name : DO Ink- Red
Product code : 12165

1.2. Other means of identification

Synonyms : Ball Marking ink

1.3. Recommended use of the chemical and restrictions on use

Recommended use : DO inks are a high viscosity permanent ink for marking almost any surface through ball

markers.

Restrictions on use : Not to be used for any purpose other than the one the product was designed for

1.4. Details of manufacturer or importer

Supplier

Signet Pty Ltd 56 Ingleston Rd WAKERLEY, QLD 4154 Australia T +61 (07) 3179 2100

sales@signet.net.au - www.signet.net.au

1.5. Emergency phone number

Emergency number : Office hours: +61 (07) 3179 2100

Poisons Information Centre (24 h): 13 11 26

SECTION 2: Hazard identification

2.1. Classification of the hazardous chemical

Classification according to the model Work Health and Safety Regulations (WHS Regulations)

Flammable liquids, Category 3

Skin corrosion/irritation, Category 2

H315

Serious eye damage/eye irritation, Category 2A

H319

Specific target organ toxicity – Single exposure, Category 3, Narcosis

Specific target organ toxicity – Repeated exposure, Category 2

H373

2.2. GHS Label elements, including precautionary statements

Hazard pictograms (GHS AU)







Flame

Exclamation Health hazard

mark

Signal word (GHS AU) : Warning

Contains : ethylene glycol monobutyl ether (10 - 30 %); propylene glycol monoethyl ether, alpha

isomer (≥ 10 %)

Hazard statements (GHS AU) : H226 - Flammable liquid and vapour

H315 - Causes skin irritation

H319 - Causes serious eye irritation

H336 - May cause drowsiness or dizziness

H373 - May cause damage to organs through prolonged or repeated exposure

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Precautionary statements (GHS AU) : P101 - If medical advice is needed, have product container or label at hand.

P102 - Keep out of reach of children.

P103 - Read carefully and follow all instructions.

P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources.

No smoking.

P240 - Ground and bond container and receiving equipment.

P241 - Use explosion-proof equipment.

P260 - Do not breathe dust/fume/gas/mist/vapours/spray.

P264 - Wash hands, forearms and face thoroughly after handling.

P271 - Use only outdoors or in a well-ventilated area.

2.3. Other hazards which do not result in classification

No additional information available

SECTION 3: Composition and information on ingredients

Name	CAS-No.	%
Ethanol	64-17-5	30 – 60
ethylene glycol monobutyl ether	111-76-2	10 – 30
propylene glycol monoethyl ether, alpha isomer	1569-02-4	≥ 10

SECTION 4: First aid measures

4.1. Description of necessary first-aid measures

First-aid measures general : Call a poison center or a doctor if you feel unwell.

First-aid measures after inhalation : Remove person to fresh air and keep comfortable for breathing.

First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing. If skin

irritation occurs: Get medical advice/attention.

First-aid measures after eye contact : Rinse immediately with plenty of water. Removal of contact lenses after an eye injury should

only be undertaken by skilled personnel. If eye irritation persists: Get medical

advice/attention.

First-aid measures after ingestion : Call a poison center or a doctor if you feel unwell.

4.2. Symptoms caused by exposure

Symptoms/effects : May cause drowsiness or dizziness.

Symptoms/effects after skin contact : Irritation.
Symptoms/effects after eye contact : Eye irritation.

4.3. Medical attention and special treatment

Other medical advice or treatment : Treat symptomatically.

SECTION 5: Fire-fighting measures

5.1. Extinguishing media

Suitable extinguishing media : Water spray. Dry powder. Foam. Carbon dioxide. Unsuitable extinguishing media : Unsuitable extinguishing media are not known.

5.2. Specific hazards arising from the chemical

Fire hazard : Flammable liquid and vapour.

General measures : No action shall be taken without appropriate training or involving any personal risk. Notify

authorities if product enters sewers or public waters.

Hazardous decomposition products in case of fire : Toxic fumes may be released.

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5.3. Special protective equipment and precautions for fire-fighters

Firefighting instructions : Exercise caution when fighting any chemical fire. Keep upwind. Fight fire from safe distance

and protected location.

Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained

breathing apparatus. Complete protective clothing.

authorities if product enters sewers or public waters.

Hazchem Code : * 3\

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : No action shall be taken without appropriate training or involving any personal risk. Notify

6.1.1. For non-emergency personnel

Emergency procedures : Ventilate spillage area. No open flames, no sparks, and no smoking. Do not breathe

dust/fume/gas/mist/vapours/spray. Avoid contact with skin and eyes.

6.1.2. For emergency responders

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information

refer to section 8: "Exposure controls/personal protection".

6.2. Environmental precautions

Avoid release to the environment.

6.3. Methods and materials for containment and cleaning up

Methods for cleaning up : Take up liquid spill into absorbent material. Notify authorities if product enters sewers or public waters.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No

smoking. Ground/bond container and receiving equipment. Use only non-sparking tools. Take precautionary measures against static discharge. Flammable vapours may accumulate in the container. Use explosion-proof equipment. Wear personal protective equipment. Do not breathe dust/fume/gas/mist/vapours/spray. Use only outdoors or in a

well-ventilated area. Avoid contact with skin and eyes.

Hygiene measures : Wash contaminated clothing before reuse. Do not eat, drink or smoke when using this

product. Always wash hands after handling the product.

7.2. Conditions for safe storage, including any incompatibilities

Technical measures : Ground/bond container and receiving equipment.

Storage conditions : Store in a well-ventilated place. Keep cool. Keep container tightly closed. Store locked up.

Information on mixed storage : Store away from incompatible materials and products. Refer to the detailed list of

incompatible materials in section 10 Stability/Reactivity.

Storage area : Keep out of direct sunlight.

Special rules on packaging : Position containers so that any labeling information is visible. Keep packaging closed when

not in use. Check containers and packaging regularly for leaks and damage.

Packaging materials : Keep only in original packaging.

SECTION 8: Exposure controls and personal protection

8.1. Control parameters - exposure standards

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Ethanol (64-17-5)		
Australia - Occupational Exposure Limits		
Local name	Ethyl alcohol (Ethanol)	
OES TWA [1]	1880 mg/m³	
OES TWA [2]	1000 ppm	
Regulatory reference	Workplace exposure standards for airborne contaminants (2019)	
ethylene glycol monobutyl ether (111-76-2)		
Australia - Occupational Exposure Limits		
Local name	2-Butoxyethanol (Butyl cellosolve; Butyl glycol; Ethylene glycol monobutyl ether; Glycol monobutyl ether)	
OES TWA [1]	96.9 mg/m³	
OES TWA [2]	20 ppm	
OES STEL	242 mg/m³	
OES STEL [ppm]	50 ppm	
Remark (AU)	Sk - Absorption through the skin may be a significant source of exposure.	
Regulatory reference	Workplace exposure standards for airborne contaminants (2019)	

8.2. Monitoring methods

Monitoring methods : Workplace exposure - General requirements for the performance of procedures for the

measurement of chemical agents. Gas detectors should be used when flammable gases/vapours may be released.

8.3. Engineering controls

Appropriate engineering controls : Ensure good ventilation of the work station. Use spark-/explosionproof appliances and

lighting system. Use grounded electrical/mechanical equipment.

8.4. Individual protection measures, such as personal protective equipment (PPE)

Personal protective equipment : Personal protective equipment (PPE) must be suited to the nature of the work and any

hazard associated with the work as identified by the risk assessment conducted.

Avoid all unnecessary exposure. Ocular shower with suitable liquid.

Hand protection : Wear protective gloves: Antistatic gloves

Eye protection: Chemical goggles or safety glasses

Skin and body protection : Wear foot protection: antistatic boots. Wear protective clothing: Antistatic clothing, Flame

retardant protective clothing

Respiratory protection : Wear appropriate mask

Personal protective equipment symbol(s)













Consumer exposure controls
Other information

: Personal protective equipment (PPE) is not required when handling individual retail pack.

PPE compliant to the recommended standards should be selected. The following Australian and New Zealand Standards will provide general advice regarding safety clothing and equipment: Respiratory equipment: AS/NZS 1715, Protective Gloves: AS 2161, Industrial Clothing: AS2919, Industrial Eye Protection: AS1336 and AS/NZS 1337, Occupational Protective Footwear: AS/NZS2210.

SECTION 9: Physical and chemical properties

Physical state : Liquid

Appearance : No data available

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Molecular mass : Not applicable

Colour : Red

Odour Codour threshold : Not available Codour threshold : No data available pH : Not available pH solution : Not available Relative evaporation rate (butylacetate=1) : No data available

Melting point / Freezing point : Melting point: Not available

Boiling point : 78 – 170 °C
Flash point : 24 °C
Auto-ignition temperature : Not available
Decomposition temperature : Not available
Flammability : No data available

Vapour pressure : Vapour pressure: 1 – 5 kPa

Relative density : Relative vapour density at 20°C: Not available. (Air=1).

Density : Density: $\approx 0.9 \text{ kg/l}$

Relative density: (Water = 1).

Solubility : No data available Partition coefficient n-octanol/water (Log Pow) : Not available Viscosity, kinematic : Not available Viscosity, dynamic : ≈ 1200 cP Explosive properties : No data available **Explosive limits** : No data available Minimum ignition energy : No data available VOC content : Not available Fat solubility : No data available

SECTION 10: Stability and reactivity

Reactivity : Flammable liquid and vapour.
Chemical stability : Stable under normal conditions.

Possibility of hazardous reactions : No dangerous reactions known under normal conditions of use.

Conditions to avoid : Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of

ignition.

Incompatible materials : Strong acids. Strong bases. Strong oxidizers.

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not

be produced.

SECTION 11: Toxicological information

Acute toxicity (oral) : Not classified Acute toxicity (dermal) : Not classified Acute toxicity (inhalation) : Not classified

Ethanol (64-17-5)		
LD50 oral rat	7060 mg/kg Source: ECHA	
ethylene glycol monobutyl ether (111-76-2)		
LD50 oral	1414 mg/kg bodyweight Animal: guinea pig, Guideline: OECD Guideline 401 (Acute Oral Toxicity), 95% CL: 1020 - 1961	
LD50 dermal rat	> 2000 mg/kg Source: ECHA	
propylene glycol monoethyl ether, alpha isomer (1569-02-4)		
propyrate gry continuously content, improve	(1000 02 4)	
LD50 oral rat	4400 mg/kg	
7 7 7		
LD50 oral rat	4400 mg/kg	

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propylene glycol monoethyl ether, alpha isomer (1569-02-4)		
LC50 Inhalation - Rat [ppm]	10000 ppm	
Skin corrosion/irritation :	Causes skin irritation.	
Sorious ava demaga/irritation	pH: Not available Causes serious eye irritation.	
Serious eye damage/irritation :	pH: Not available	
Respiratory or skin sensitisation :	Not classified	
Germ cell mutagenicity :	Not classified	
	Not classified	
Reproductive toxicity : STOT-single exposure :	Not classified May cause drowsiness or dizziness.	
propylene glycol monoethyl ether, alpha ison	•	
STOT-single exposure	May cause drowsiness or dizziness.	
STOT-repeated exposure :	May cause damage to organs through prolonged or repeated exposure.	
Ethanol (64-17-5)		
LOAEL (oral, rat, 90 days)	3200 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents)	
NOAEL (oral, rat, 90 days)	1730 mg/kg bodyweight Animal: rat, Animal sex: male, Guideline: OECD Guideline 408 (Repeated Dose 90-Day Oral Toxicity Study in Rodents), Remarks on results: other:	
ethylene glycol monobutyl ether (111-76-2)		
NOAEL (dermal, rat/rabbit, 90 days)	> 150 mg/kg bodyweight Animal: rabbit, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study), Remarks on results: other:	
STOT-repeated exposure	May cause damage to organs through prolonged or repeated exposure.	
propylene glycol monoethyl ether, alpha isomer (1569-02-4)		
LOAEC (inhalation, rat, vapour, 90 days)	8.36 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)	
NOAEL (oral, rat, 90 days)	< 1792 mg/kg bodyweight Animal: rat, Guideline: OECD Guideline 407 (Repeated Dose 28-Day Oral Toxicity Study in Rodents)	
NOAEL (dermal, rat/rabbit, 90 days)	1800 mg/kg bodyweight Animal: rabbit, Animal sex: male, Guideline: OECD Guideline 411 (Subchronic Dermal Toxicity: 90-Day Study)	
NOAEC (inhalation, rat, vapour, 90 days)	1266 mg/l air Animal: rat, Guideline: OECD Guideline 413 (Subchronic Inhalation Toxicity: 90-Day Study)	
Aspiration hazard :	Not classified	
DO Ink- Red		
Viscosity, kinematic	Not available	
Ethanol (64-17-5)		
Animal studies and expert judgment for classification	False	
Viscosity, kinematic	1.366 mm²/s	
ethylene glycol monobutyl ether (111-76-2)		
Animal studies and expert judgment for classification	False	
propylene glycol monoethyl ether, alpha isomer (1569-02-4)		
Animal studies and expert judgment for classification	False	
	I	

SECTION 12: Ecological information

According to the National Code of Practice for the Preparation of Material Safety Data Sheets, Environmental classification information is not mandatory. Information relevant for GHS classification is available on request

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12.1. Ecotoxicity

: The product is not considered harmful to aquatic organisms nor to cause long-term adverse Ecology - general

effects in the environment.

Hazardous to the aquatic environment, short-term

(acute) Hazardous to the aquatic environment, long-term

: Not classified

: Not classified

(chronic)

` '		
Ethanol (64-17-5)		
LC50 - Fish [1]	> 100 mg/l Source: SIDS 2005	
EC50 - Crustacea [1]	> 10000 mg/l Test organisms (species): Daphnia magna	
ErC50 algae	275 mg/l Source: ECHA	
Partition coefficient n-octanol/water (Log Pow)	-0.32 Source: ICSC	
ethylene glycol monobutyl ether (111-76-2)		
LC50 - Fish [1]	1474 mg/l Source: ECHA	
EC50 - Crustacea [1]	1800 mg/l Source: ECHA	
NOEC (chronic)	100 mg/l Test organisms (species): Daphnia magna Duration: '21 d'	
NOEC chronic fish	≥ 100 mg/l Test organisms (species): Oryzias latipes Duration: '14 d'	
Partition coefficient n-octanol/water (Log Pow)	0.81 Source: ECHA	
propylene glycol monoethyl ether, alpha isomer (1569-02-4)		
LC50 - Fish [1]	560 – 1000 mg/l Test organisms (species): Poecilia reticulata	
EC50 - Crustacea [1]	> 1000 mg/l Test organisms (species): Daphnia magna	
NOEC (chronic)	> 180 mg/l Test organisms (species): Daphnia magna Duration: '21 d'	
NOEC chronic fish	> 260 mg/l Test organisms (species): Oncorhynchus mykiss (previous name: Salmo gairdneri) Duration: '21 d'	
Partition coefficient n-octanol/water (Log Pow)	0	

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

DO Ink- Red		
Partition coefficient n-octanol/water (Log Pow)	Not available	
Ethanol (64-17-5)		
Partition coefficient n-octanol/water (Log Pow)	-0.32 Source: ICSC	
ethylene glycol monobutyl ether (111-76-2)		
Partition coefficient n-octanol/water (Log Pow)	0.81 Source: ECHA	
propylene glycol monoethyl ether, alpha isomer (1569-02-4)		
Partition coefficient n-octanol/water (Log Pow)	0	

12.4. Mobility in soil

DO Ink- Red	
Partition coefficient n-octanol/water (Log Pow) Not available	
Ethanol (64-17-5)	
Partition coefficient n-octanol/water (Log Pow)	-0.32 Source: ICSC

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ethylene glycol monobutyl ether (111-76-2)

Partition coefficient n-octanol/water (Log Pow) 0.81 Source: ECHA

propylene glycol monoethyl ether, alpha isomer (1569-02-4)

Partition coefficient n-octanol/water (Log Pow) 0

12.5. Other adverse effects

Ozone : Not classified

Other adverse effects : No additional information available

DO Ink- Red

Fluorinated greenhouse gases False

Ethanol (64-17-5)

Fluorinated greenhouse gases False

ethylene glycol monobutyl ether (111-76-2)

Fluorinated greenhouse gases False

propylene glycol monoethyl ether, alpha isomer (1569-02-4)

Fluorinated greenhouse gases False

SECTION 13: Disposal considerations

Waste treatment methods : Dispose of contents/container in accordance with licensed collector's sorting instructions.

Additional information : Flammable vapours may accumulate in the container.

SECTION 14: Transport information

ADG	IMDG	IATA		
14.1. UN number				
1210	1210	1210		
14.2. UN Proper Shipping Name	14.2. UN Proper Shipping Name			
PRINTING INK	PRINTING INK	Printing ink		
14.3. Transport hazard class(es)	14.3. Transport hazard class(es)			
3	3	3		
3	3	3		
14.4. Packing group				
III - Substances presenting low danger	III	III		
14.5. Environmental hazards				
Dangerous for the environment: No	Dangerous for the environment: No Marine pollutant: No	Dangerous for the environment: No		

14.6. Special precautions for user

Specific storage requirement : No data available Shock sensitivity : No data available

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14.7. Additional information

Other information : No supplementary information available

Transport by road and rail

UN-No. (ADG) : 1210 Special provision (ADG) : 163, 223, 367

Limited quantities (ADG) : 5I Excepted quantities (ADG) : E1

Packing instructions (ADG) : P001, IBC03, LP01

Special packing provisions (ADG) : PP1
Portable tank and bulk container instructions (ADG) : T2
Portable tank and bulk container special provisions : TP1

(ADG)

Transport by sea

UN-No. (IMDG) : 1210

Special provisions (IMDG) : 163, 223, 367, 955

Limited quantities (IMDG) : 5 L

Excepted quantities (IMDG) : E1

Packing instructions (IMDG) : P001, LP01

Special packing provisions (IMDG) : PP1

IBC packing instructions (IMDG) : IBC03

Tank instructions (IMDG) : T2

Tank special provisions (IMDG) : TP1

EmS-No. (Fire) : F-E - FIRE SCHEDULE Echo - NON-WATER-REACTIVE FLAMMABLE LIQUIDS

EmS-No. (Spillage) : S-D - SPILLAGE SCHEDULE Delta - FLAMMABLE LIQUIDS

Stowage category (IMDG) : A

Properties and observations (IMDG) : Fluid or viscous liquid containing colouring matter in solution or suspension. Miscibility with

water depends upon the solvent.

Air transport

UN-No. (IATA) : 1210 PCA Excepted quantities (IATA) : E1 PCA Limited quantities (IATA) : Y344 PCA limited quantity max net quantity (IATA) : 10L PCA packing instructions (IATA) 355 PCA max net quantity (IATA) . 601 CAO packing instructions (IATA) : 366 CAO max net quantity (IATA) : 220L Special provisions (IATA) : A3, A72, A192

ERG code (IATA) : 3L

14.8. Hazchem or Emergency Action Code

Hazchem Code : * 3Y

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations specific for the product in question

Australian Industrial Chemicals Introduction Scheme (AICIS)

Australian Inventory of Industrial Chemicals (AICIS : Listed

Inventory) status

Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP)

Relevant Poisons Schedule number : Unscheduled

15.2. International agreements

No additional information available

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SECTION 16: Other information

Indication of changes:

Update of the SDS from former GHS version to the 7th edition of the GHS (GHS 7).

Data sources

: Safe Work Australia - Code of Practice - Preparation of Safety Data Sheets for Hazardous Chemicals

Safe Work Australia - Code of Practice - Labelling of Workplace Hazardous Chemicals Safe Work Australia - Workplace Exposure Standards for Airborne Contaminants

Safe Work Australia - Hazardous Chemical Information System (HCIS)

Australian Inventory of Industrial Chemicals (AICIS Inventory)

Environmental Protection Authority - Hazardous Substances (Hazard Classification) Notice 2020

Environmental Protection Authority - Hazardous Substances (Safety Data Sheets) Notice 2017

Environmental Protection Authority - Hazardous Substances (Labelling) Notice 2017

New Zealand - Chemical Classification and Information Database (CCID)

New Zealand - Inventory of Chemicals (NZIoC)

European Chemicals Agency (ECHA) - Annex VI (C&L Inventory)
European Chemicals Agency (ECHA) - REACH Study Results
European Chemicals Agency (ECHA) - REACH Registration Dossiers

United Nations - Globally Harmonised System of Classification and Labelling of Chemicals (GHS)

Uniform Scheduling of Medicines and Poisons (SUSMP)

United Nations Recommendations on the Transport of Dangerous Goods (UNRTDG Model Regulation)

Australian Dangerous Goods Code (ADG Code)

International Air Transport Association Dangerous Goods Regulations (IATA DGR)

International Maritime Dangerous Goods (IMDG Code).

Classification	
Flam. Liq. 3	H226
Skin Irrit. 2	H315
Eye Irrit. 2A	H319
STOT SE 3	H336
STOT RE 2	H373

Full text of H-statements	
Acute Tox. 4 (Inhalation)	Acute toxicity (inhal.), Category 4
Acute Tox. 4 (Inhalation:gas)	Acute toxicity (inhalation:gas) Category 4
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Acute Tox. 5 (Dermal)	Acute toxicity (dermal), Category 5
Acute Tox. 5 (Oral)	Acute toxicity (oral), Category 5
Eye Irrit. 2A	Serious eye damage/eye irritation, Category 2A
Flam. Liq. 2	Flammable liquids, Category 2
Flam. Liq. 3	Flammable liquids, Category 3
Flam. Liq. 4	Flammable liquids, Category 4
Skin Irrit. 2	Skin corrosion/irritation, Category 2
STOT RE 2	Specific target organ toxicity – Repeated exposure, Category 2
STOT SE 3	Specific target organ toxicity – Single exposure, Category 3, Narcosis
H225	Highly flammable liquid and vapour

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Full text of H-statements	
H226	Flammable liquid and vapour
H227	Combustible liquid
H302	Harmful if swallowed
H303	May be harmful if swallowed
H313	May be harmful in contact with skin
H315	Causes skin irritation
H319	Causes serious eye irritation
H332	Harmful if inhaled
H336	May cause drowsiness or dizziness
H373	May cause damage to organs through prolonged or repeated exposure

Safety Data Sheet (SDS), Australia

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.