GHS Safety Data Sheet

According to Regulation ST/SG/AC.10/30/Rev.8 UN GHS

This Safety Data Sheet cancels and replaces all preceding SDS for this product.

1 IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

1.1 Product identifier

937490
DARTANOL®
© Firmenich product

CAS No:	28219-61-6
EC No:	
EU REACH No:	01-2119529224-45

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

Fragrance ingredient for use in consumer products.
Not for personal use in this form or concentration.
Intended to be used in the manufacture of products for consumers

1.3 Details of the supplier of the safety data sheet

Firmenich Asia Private Ltd
No 10 Tuas West Road
Singapore 638377
SINGAPORE
Tel: +(65) 6347 2888

GRS.Fragrance.FIRSIN@firmenich.com

1.4 Emergency telephone number

+65 3158 1074 NCEC - Available 24/7

2 HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

2.1.1 Classification according to Regulation ST/SG/AC.10/30/Rev.8 [UN/GHS]

Eye Irritation - Cat.2A	H319
Environmental Hazard (acute) - Cat. 2	H401
Environmental Hazard (chronic) - Cat. 2	H411

2.1.2 Additional information

Full text of listed statements : See section 16

2.2 Label elements

Hazard pictograms:


Signal Word:
Warning

Hazard Statements:

H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.

Precautionary Statements:

P264	Wash thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

2.3 Other hazards

No data available at this time.

3 COMPOSITION/INFORMATION ON INGREDIENTS

Chemical substance.

Contains :
>= 99.0 <= 100.0%
2-Buten-1-Ol, 2-Ethyl-4-(2,2,3-Trimethyl-3-Cyclopenten-1-Yl)-
N° CAS : 0028219-61-6
N° ELINCS: --
N° EU REACH: 01-2119529224-45

GHS Classification:
Eye Irritation - Cat.2A [H319]
Environmental Hazard (chronic) - Cat. 2 [H411]
Environmental Hazard (acute) - Cat. 2 [H401]

4 FIRST-AID MEASURES

4.1 Description of first aid measures

General information:
As in all cases of potential poisoning, Obtain medical advice immediately.

In case of eye contact:

Irrigate copiously with water for at least 10 minutes. Obtain medical advice if any irritation or evidence of tissue damage persists.

In case of inhalation:
Remove the individual to fresh air and keep at rest. Obtain medical advice immediately.

In case of skin contact:
Remove contaminated clothes. Wash skin with large volumes of water.
If irritation persists, or any sign of tissue damage is apparent, obtain medical advice immediately.

In case of ingestion:
Rinse mouth with water. Obtain medical advice immediately.

4.2 Most important symptoms and effects, both acute and delayed
No specific data available.

4.3 Indication of immediate medical attention and special treatment needed
No specific data available.

5 FIRE-FIGHTING MEASURES

5.1 Extinguishing media
In the event of fire, adequate extinguishers should be used. Avoid inhalation of smoke and fumes. In case of insufficient ventilation, wear suitable respiratory equipment.

5.2 Special hazard arising from the substance or mixture
No specific hazard known.

5.3 Advice for fire-fighters
No specific advice.

6 ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures
For non-emergency personnel:
Adequate protective gloves should be worn when handling spillages. No smoking. Avoid naked flames or other potential sources of ignition (eg. electrical equipment).
Avoid skin contamination and inhalation of vapour.
Individual washing routines should be followed after any potential contact.
Ensure adequate ventilation in working areas following accidental releases.

For emergency personnel:
Apply the same recommendations as section 6.1

6.2 Environmental precautions
Do not discharge directly into drains, air, into soil or into the aquatic environment.

6.3 Methods and material for containment and cleaning up
For containment:

Any absorbent used for cleaning up spillage should be disposed promptly,accordingly to local regulation.
Gross spillages should be contained by any means, and disposal of this should be in accordance with Government Regulations.

For cleaning-up:
Spillages should be disposed of in accordance with Governmental Regulations.

7 HANDLING AND STORAGE

7.1 Precautions for safe handling

Avoid contact with skin and eyes.
Wear adequate protective gloves protection and eye/face protection.
No smoking. Avoid any sources of ignition.
Avoid exposing to high temperature during processing.
Do not ingest or apply to the skin as such. Good personal washing routines should be followed.
Maintain adequate local and general ventilation where product is handled.

7.1.1 Protective measures

Keep strict control of dust accumulation to a minimum.Maintain adequate local and general ventilation where product is handled.Avoid any sources of ignition.

7.1.2 Advice on general occupational hygiene

Good personal washing routines should be followed.

7.2 Conditions for safe storage, including any incompatibilities

It is good general practice to store in closed, preferably full, containers away from heat sources, and protected from extremes of temperature. Do not re-use the empty container.
Respect generals rules for compatibility storage.

7.3 Specific end use(s)

Not available at this time.

8 EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

Contains no substances with occupational exposure limit values

Derived No Effect Level (DNEL)

DNEL Worker (dermal), systemic effects - long-term, = 6 mg/kg bw/day
Worker (dermal), systemic effects - acute, No hazard identified.
Worker (dermal), local effects - acute & long-term, No hazard identified.
Worker (eyes), Low hazard (no threshold derived)
DNEL Worker (inhalation), systemic effects - long-term, = 21 mg/m³
Worker (inhalation), systemic effects - acute, mg/m³ No hazard identified.
Worker (inhalation), local effects - acute & long-term, mg/m³ No hazard identified.
DNEL Consumer (oral), systemic effects - long-term, = 3 mg/kg bw/day
Consumer (oral), systemic effects - acute, No hazard identified.
DNEL Consumer (inhalation), systemic effects - long-term, = 5.2 mg/m³

Consumer (inhalation), systemic effects - acute, mg/m³ No hazard identified.
Consumer (inhalation), local effects - acute & long-term, mg/m³ No hazard identified.
Consumer (eyes), Low hazard (no threshold derived)
DNEL Consumer (dermal), systemic effects - long-term, = 3 mg/kg bw/day
Consumer (dermal), systemic effects - acute, No hazard identified.
Consumer (dermal), local effects - acute & long-term, No hazard identified.

Predicted No Effect Concentration (PNEC)
PNEC Aqua (freshwater) = 8.8 µg/l
PNEC Aqua (marine water) = 0.88 µg/l
PNEC Water (intermittent release) No hazard identified.
PNEC Sediment (freshwater) = 1.05 mg/kg sediment dw
PNEC Sediment (marine water) = 0.105 mg/kg sediment dw
PNEC STP = 1 mg/l
PNEC Soil = 0.206 mg/kg soil dw
PNEC Air No hazard identified.
PNEC Oral (secondary poisoning) = 20 mg/kg food

8.2 Exposure controls
Avoid exposing to high temperature during processing.
Maintain adequate local and general ventilation where product is handled.

8.2.1 Appropriate engineering controls
Maintain adequate local and general ventilation where product is handled and dispensed.

8.2.2 Environmental exposure controls
Not available at this time. Minimize release to the environment.

8.3 Personal protection
Respiratory protection: Where ventilation (LEV) is inadequate to prevent any inhalation of substances, use adequate respiratory apparatus.
Hand protection: Adequate Protective Gloves should be worn.
Eye protection: Adequate safety glasses should be used.
Skin protection: Wear protective clothing, overall if necessary to limit the odour contamination of personal clothing. Individual washing routines should be followed after any potential contact.

9 PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance :	LIQUID
Colour :	COLOURLESS TO VERY PALE YELLOW
Odour :	Characteristic strong odour according to the commercial description of the substance.
pH :	Not available
Melting point/range (°C) :	= -58.2 - -46.0 °C (OECD 102)
Initial boiling point/range (°C) :	= 278.7 °C (OECD 103)
Flash point (closed cup) :	> 100°C

Evaporation rate :	Not available
Flammability (solid/gas) :	The product is not flammable.
Explosive properties (St class) :	N/A
Vapour pressure (Pa) :	VP = 0.0171 Pa at 20°C (OECD 104)
Vapour density :	Not available
Relative density (d 20/20) :	= 0.916 at 20°C (OECD 109)
Water solubility (20°C) :	= 25.83 mg/l at 20°C (OECD 105)
Partition coef. (n-octanol/water) :	Log Kow = 4.4 (OECD 117)
Auto-ignition temperature (°C) :	= 250 °C at 99.663 -. 99.353kPa (Method A15)
Decomposition temperature :	Not available
Viscosity :	= 69.5 mPa.s at 20°C (OECD 114)
Explosive properties :	Not available
Oxidizing properties :	Not available

9.2 Other safety information
None

10 STABILITY AND REACTIVITY

10.1 Reactivity
No reaction known with water.

10.2 Chemical stability
Good stability at standard temperature.

10.3 Possibility of hazardous reactions
Not known.

10.4 Conditions to avoid
Avoid temperatures above or at least 5 °C below flash point for any flammable liquids.
Do not heat closed containers.
Avoid contact with oxidizing agents.

10.5 Incompatible materials
Not known.

10.6 Hazardous decomposition products
Contact with water or storage under recommended conditions for one year should not produce dangerous decomposition products.

11 TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

(a) acute toxicity
Acute oral toxicity (Rat, OECD 401, Gavage): LD50 > 2000 mg/kg
Acute dermal toxicity (Rat, OECD 402, Open to air): LD50 > 5000 mg/kg

(b) skin corrosion/irritation
Primary Skin irritation (Rabbit, OECD 404, Semi-occlusive): Non irritant

(c) serious eye damage/irritation
Acute Eye irritation (Rabbit): Irritant (Conclusion of weight of evidence based on 3 studies)

(d) respiratory or skin sensitisation
Guinea pig Maximisation test (OECD 406): Non-sensitising to skin

(e) germ cell mutagenicity
Bacterial Reverse Mutation test (Ames) (Salmonella + E. Coli, OECD 471, With and without S9, 5 strains): Non mutagenic
In vitro mammalian cell gene mutation test (Mouse, L5178Y cells, OECD 476, With and without S9): Non mutagenic
In vitro Mammalian Chromosome Aberration Test (Chinese hamster, OECD 473): No chromosomal aberration

(f) carcinogenicity
No data available

(g) reproductive toxicity
Combined Repeat. Dose Tox. & Reprod./Develop. Tox. Screening (Rat, OECD 422, Gavage):
NOAEL (fertility) = 300 mg/kg/day
NOAEL (development) = 300 mg/kg/day
Prenatal development toxicity study (Rat, OECD 414, Gavage):
NOAEL (maternal) = 300 mg/kg/day
NOAEL (development) = 750 mg/kg/day

(h) STOT-single exposure
No data available

(i) STOT-repeated exposure
Repeated Dose 90-Day Oral Toxicity Study in Rodents (Rat, OECD 408, Dietary): NOAEL = 981 mg/kg/day (Male)

(j) aspiration hazard
No data available

12 ECOLOGICAL INFORMATION

12.1 Toxicity
Algal Toxicity, Tiers I and II (Selenastrum capricornutum, EPA 850.5400, Static):
96 h ErC50 = 2.5 mg/l (Based on average measured concentrations)
96 h NOEC = 0.44 mg/l (Based on average measured concentrations)
Daphnia sp. Acute Immobilisation Test (OECD 202, Semi-static): 48h EC50 = 1.34 mg/l (Based on average measured concentrations)

Aquatic Invertebrate Acute Toxicity Test, Freshwater Daphnids (EPA 850.1010, Flow-through): 48h EC50 = 1.4 mg/l (Based on average measured concentrations)
Freshwater and Saltwater Fish Acute Toxicity Test (Lepomis macrochirus (Bluegill Sunfish), EPA 850.1075, Flow-through): 96h LC50 = 1.1 mg/l (Based on average measured concentrations)
Activated Sludge, Respiration Inhibition Test (OECD 209, Static):
3h EC50 = 225 mg/l (Based on nominal concentrations)
3h EC10 = 10 mg/l (Based on nominal concentrations)
Daphnia magna Reproduction Test (OECD 211, 21 day(s)): NOEC = 0.48 mg/l (Based on time Weighted average concentrations)
QSAR - Fish, Early-Life Stage Toxicity Test (QSAR-OECD210, 28 day(s)): NOEC = 0.23 mg/l

12.2 Persistence and degradability
Ready Biodegradation - Closed Bottle Test (OECD 301D, Freshwater): Non readily biodegradable (5% in 29 day(s))
Biodegradation in Activated Sludge Test (OECD 314B): Ultimately biodegradable (DT50 = 0.025h)
QSAR - Phototransformation of chemicals in air: Inherently photolabile (Estimated Half-life = 0.308 h)
Hydrolysis as a Function of pH: Estimated Half-life > 1 year (25°C)

12.3 Bioaccumulative potential
QSAR - Bioconcentration factor BCF Fish = 647.7 L/kg (Conclusion of weight of evidence based on 3 QSAR studies)
Log Kow = 4.4 (OECD 117)

12.4 Mobility in soil
QSAR - Adsorption coefficient: Log Koc = 3.07

12.5 Results of PBT and vPvB assessment
Not applicable

12.6 Other adverse effects
No data available

13 DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods
Product: The product should be handled according to the instructions given under sections 6, 7 and 8. Dispose of according to local or national regulations. The product should not be allowed to enter drains or the environment
Contaminated packaging: Empty packaging should be disposed according to local or national regulations by an approved waste handling

14 TRANSPORT INFORMATION

In case of accidental spillage or fire during transport, refer to instructions given under points 5, 6, 7 and 8 above.

UNO

14.1 UN-No:	3082
14.2 Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (BUTENOL,2-ET-TRIME-CYCLOPENTENYL)
14.3 Class:	9
14.4 Packing Group:	III
14.5 Environmental hazards:	Yes

Land transport (ADR/RID)

14.1 UN-No:	3082
14.2 Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BUTENOL,2-ET-TRIME-CYCLOPENTENYL)
14.3 Class:	9
14.4 Packing Group:	III
14.5 Environmental hazards:	Yes
14.6 Special precautions for user:	Refer to section 7

Sea transport (IMDG-Code)

14.1 UN-No:	3082
14.2 Proper Shipping Name:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (BUTENOL,2-ET-TRIME-CYCLOPENTENYL)
14.3 Class:	9
14.4 Packing Group:	III
14.5 Environmental hazards:	Yes
Marine pollutant:	Yes
14.6 Special precautions for user:	Refer to section 7
14.7 Maritime transport in bulk according to IMO instruments:	Not applicable

Air transport (ICAO-IATA)

14.1 UN-No:	3082
14.2 Proper Shipping Name:	Environmentally hazardous substance, liquid, n.o.s. (BUTENOL,2-ET-TRIME-CYCLOPENTENYL)
14.3 Class:	9
14.4 Packing Group:	III
14.5 Environmental hazards:	Not applicable
14.6 Special precautions for user:	Refer to section 7

14.7 Maritime transport in bulk according to IMO instruments:	Not applicable

15 REGULATORY INFORMATION

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

No relevant information available at this time.

15.2 Chemical Safety Assessment

No data available at this time.

16 OTHER INFORMATION

16.1 Revisions

March-2024 : Version 13.0 - Updates to sections 2, 3, 9, 14, 16

16.2 Key literature references

RIFM database
OECD SIDS
EU IUCLID
Supplier information

16.3 Full text of phrases used under section 2

H319	Causes serious eye irritation.
H411	Toxic to aquatic life with long lasting effects.
P264	Wash thoroughly after handling.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337+P313	If eye irritation persists: Get medical advice/attention.
P391	Collect spillage.

16.4 Full text of phrases used under section 3

H319	Causes serious eye irritation.
H401	Toxic to aquatic life.
H411	Toxic to aquatic life with long lasting effects.

We believe that the information contained herein is current as of the date of this Safety Data Sheet. Since the use of this information and the conditions of use of the product are not within the control of Firmenich, it is the user's obligation to determine conditions of safe use of the product.