

Material Safety Data Sheet

SDS date: 01-07-2019

SDS version: 1.0

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

1.1. Product Identifier

Trade Name: VE 1600 Comp. A

Product- no.: 8010501

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

Recommended uses: Paint. After mixture with B-komp, both MSDS should be used.

1.3. Details of the supplier of the safety data sheet

Company and address

Marlon Marine A/S

Virkelyst 20

8740 Brædstrup

Tlf.: +45 75 75 43 00

www.marlon.dk

Contact person and E-mail:

Bent Vinter Rasmussen, bvr@marlon.dk

1.4. Emergency telephone number

Use your national or local emergency number - See section 4 "First aid measures".

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

The product is not subject to labelling under CLP Regulation No. 1272/2008.

2.2. Label elements

-

Signal word:

-

2.3. Other hazards

-

Additional labelling:

-

Additional warnings:

-

SECTION 3: Composition/information on ingredients

3.1./3.2. Substances/Mixtures

Contains no substances subject to reporting requirements.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:	Seek fresh air. Keep victim under observation. Seek medical advice in case of discomfort.
Ingestion:	Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Seek medical advice in case of discomfort.
Skin contact:	Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Seek medical advice in case of persistent discomfort.
Eye contact:	Flush with water (preferably using eye wash equipment) until irritation subsides. Remove contact lenses. Seek medical advice if symptoms persist.
Additional information:	When obtaining medical advice, show the safety data sheet or label. Symptoms: See section 11.

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

May cause slight irritation to the skin and eyes.

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

When obtaining medical advice, show the safety data sheet or label.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Extinguish with powder, foam or carbon dioxide. Do not use water stream, as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

Avoid inhalation of vapour and fumes – seek fresh air.

Product decomposes in fire conditions and toxic gases such as CO_x may be released. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

5.3. Advice for firefighters

Send contaminated extinguishing water for destruction. If there is a risk of exposure to vapour and flue gases, a self-contained breathing apparatus must be worn.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

See section 8 for type of protective equipment.

6.2. Environmental precautions

Do not discharge large quantities of concentrated spills and residue into drains. Notify proper authorities in case of contamination of soil or aquatic environment or discharge to drains.

6.3. Methods and material for containment and cleaning up

Contain and absorb spill with sand or other absorbent material and transfer to suitable waste containers. Rinse with water. See section 13 for instructions on disposal.

6.4. Reference to other sections

See above.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

See section 8 for information about precautions for use and personal protective equipment. Use the product under well-ventilated conditions.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored safely, out of reach of children and away from food, animal feeding stuffs, medicines, etc. Keep in tightly closed original packaging. Store in a dry area. Avoid direct sunlight.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits according to EH40/2005 Workplace exposure limits (Second edition, 2011): -

DNEL and PNEC values:

No data.

8.2. Exposure controls

There are no exposure scenarios for this product.

Appropriate engineering controls:

Wash hands before breaks, before using restroom facilities, and at the end of the work.



Personal protective equipment:

Breathing equipment:	Not required.
Hand protection:	Plastic or rubber gloves recommended.
Eye protection:	Wear safety goggles if there is a risk of eye splash.
Body and skin protection:	Not required.

Environmental exposure controls:

Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Multiple colours, liquid
Odour:	Mild
Odour threshold:	-
pH:	-
Melting point/ Freezing Point (°C):	-
Initial boiling point and boiling range (°C):	-
Flash point (°C):	-
Evaporation rate:	-
Flammability (solid, gas)	-
Upper / lower flammability or explosion limits (vol-%):	-
Vapour pressure (mbar, 25 °C):	-
Vapour density (air=1)	-
Relative density (g/ml):	1,2
Solubility(ies):	Soluble in water
Partition coefficient: n-octanol/water:	-
Auto-ignition temperature (°C):	-
Decomposition temperature (°C):	-
Viscosity (mPas, 25 °C):	-
Explosive properties:	-
Oxidising properties:	-

9.2. Other information

VOC (W-W%):	<1
VOC (g/l):	<10

SECTION 10: Stability and reactivity

10.1. Reactivity

Non-reactive.

10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

10.3. Possibility of hazardous reactions

None known.

10.4. Conditions to avoid

None known.

10.5. Incompatible materials

None known.

10.6. Hazardous decomposition products

No special precautions regarding contact with other materials at the recommended storage conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Route of exposure	Species	Test	Result
No data	-	-	-	-

Symptoms:

Inhalation: The product does not release hazardous vapours.

Ingestion: Ingestion may cause discomfort.

Skin contact: May cause slight irritation.

Eye contact: May cause eye irritation.

Long term effects:

None known.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Test duration	Species	Test	Result
No data	-	-	-	-

12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
No data	-	-	-

12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow	BCF
No data	-	-	-

12.4. Mobility in soil

Data not available

12.5. Results of PBT and vPvB assessment

The mixture does not meet the criteria for PBT or vPvB.

12.6. Other adverse effects

None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contact the local authorities.

EWC Code

08 01 12

Specific labelling

-

Contaminated packaging:

Uncleansed packaging is to be disposed of via the local waste-removal scheme.

SECTION 14: Transport information

The product is not covered by the rules for transport of dangerous goods by road and sea according to ADR and IMDG.

14.1 -14.4.

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant.

SECTION 15: Regulatory information

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

-

Restrictions for application:

-

Demands for specific education:

-

Additional labelling:

-

15.2. Chemical safety assessment

Chemical safety assessment has not been performed.

SECTION 16: Other information

Other information:

Sources:

EC regulation 1907/2006 (REACH).

Directive 2000/532/EC.

EC Regulation 1272/2008 (CLP).

EH40/2005 WELs (United Kingdom (UK), 8/2007).

Full text of H-phrases as mentioned in section 2+3:

-

Other

-

Minor changes have been made in following sections:

-

This material safety data sheet replaces version:

-

Material Safety Data Sheet

SDS date: 01-07-2019

SDS version: 1.0

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

1.1. Product Identifier

Trade Name: VE 1600 B-Comp.

Product- no.: 8010501

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

Recommended uses: Paint. After mixture with A-Comp, both MSDS should be used.

1.3. Details of the supplier of the safety data sheet

Company and address

Marlon Marine A/S

Virkelyst 20

8740 Brædstrup

Tlf.: +45 75 75 43 00

www.marlon.dk

Contact person and E-mail:

bvr@marlon.dk

1.4. Emergency telephone number

Use your national or local emergency number - See section 4 "First aid measures".

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

CLP (1272/2008): Skin Irrit. 2; H315, Skin Sens. 1; H317, Eye Irrit. 2; H319, Acute Tox. 4 ; H332, Resp. Sens. 1; H334, STOT SE 3; H335, Carc. 2; H351, STOT RE 2; H373, EUH204.

See full text of H-phrases in section 16.

2.2. Label elements



Signal word:

Danger

Causes skin irritation. (H315)

May cause an allergic skin reaction. (H317)

Causes serious eye irritation. (H319)

Harmful if inhaled. (H332)

May cause allergy or asthma symptoms or breathing difficulties if inhaled. (H334)

May cause respiratory irritation. (H335)

Suspected of causing cancer. (H351)

May cause damage to organs through prolonged or repeated exposure. (H373)

Contains isocyanates. May produce an allergic reaction. (EUH204)

Obtain special instructions before use. (P201)

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

Wear protective gloves /eye protection/face protection. (P280)

wear respiratory protection. (P284)

IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell (P304+P340+P312)

IF exposed or concerned: Get medical advice/attention. (P308+P313)

2.3. Other hazards

-

Additional labelling:

-

Additional warnings:

-

SECTION 3: Composition/information on ingredients

3.1./3.2. Substances/Mixtures

Substance	EU-Index no.	Cas / EINECS no.	CLP-classification	w/w%	Note
Diphenylmethane-4,4'-diisocyanate	615-005-00-9	101-68-8 / 202-966-0	Acute Tox. 4; H332 Skin Irrit. 2; H315, Eye Irrit. 2; H319, Resp. Sens. 1; H334, Skin Sens. 1; H317, Carc. 2; H351, STOT SE 3; H335, STOT RE 2; H373	25-50	E
Diphenylmethane-2,4'-diisocyanate	615-005-00-9	5873-54-1 / 227-534-9	Acute Tox. 4; H332 Skin Irrit. 2; H315, Eye Irrit. 2; H319, Resp. Sens. 1; H334, Skin Sens. 1; H317, Carc. 2; H351, STOT SE 3; H335, STOT RE 2; H373	25-50	E
Diphenylmethane-diisocyanate, isomers and homologues	615-005-00-9	9016-87-9 / 618-498-98	Acute Tox. 4; H332 Skin Irrit. 2; H315, Eye Irrit. 2; H319, Resp. Sens. 1; H334, Skin Sens. 1; H317, Carc. 2; H351, STOT SE 3; H335, STOT RE 2; H373	20-25	E
2,2'-Methylenediphenyl diisocyanate	615-005-00-9	2536-05-2 / 219-799-4	Acute Tox. 4; H332 Skin Irrit. 2; H315, Eye Irrit. 2; H319, Resp. Sens. 1; H334, Skin Sens. 1; H317, Carc. 2; H351, STOT SE 3; H335, STOT RE 2; H373	1-5	E

E = The substance is an Isocyanate.

See full text of H-phrases in section 16.

SECTION 4: First aid measures

4.1. Description of first aid measures

Inhalation:	Seek fresh air. Keep victim under observation. Seek medical advice in case of discomfort.
Ingestion:	Wash out mouth thoroughly and drink 1-2 glasses of water in small sips. Seek medical advice immediately.
Skin contact:	Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. If skin irritation or rash occurs: Get medical advice/attention.
Eye contact:	Flush immediately with water (preferably using eye wash equipment) for at least 5 minutes. Open eye wide. Remove any contact lenses. Seek medical advice.
Additional information:	When obtaining medical advice, show the safety data sheet or label. Symptoms: See section 11.

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

Carcinogenic effects: This product contains substances which are considered or proven to be carcinogenic. The substances are either classified as carcinogenic or as substances thought to be carcinogenic. The danger may lie in inhalation, skin contact or ingestion.

Sensitivity effects: This product contains substances which can give an allergic reaction on contact with skin. The allergic reaction will typically set in 12-72 hours after exposure as the substance penetrates the skin and reacts with proteins in the outer skin. The body's immune system sees the chemically changed protein as a foreign body and will try to destroy it.

Sensitivity effects: This product contains substances which can give an allergic reaction when inhaled. The allergic reaction allergy will typically set in an hour after exposure and give an inflammatory reaction in the lungs.

Irritation effects: This product contains substances which cause irritation to skin and eyes, or when inhaled. Contact with locally irritative substances can cause the area of contact to be more prone to absorb damaging substances such as allergens.

May cause damage to organs through prolonged or repeated . Harmful if inhaled.

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

When obtaining medical advice, show the safety data sheet or label.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Extinguish with powder, foam or carbon dioxide. Do not use water stream, as it may spread the fire.

5.2. Special hazards arising from the substance or mixture

Avoid inhalation of vapors and fumes – seek fresh air. Fire will produce dense black smoke. Exposure to decomposition products may cause a health hazard.

5.3. Advice for firefighters

Send contaminated extinguishing water for destruction. If there is a risk of exposure to vapour and flue gases, a self-contained breathing apparatus must be worn.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Wear the personal protective equipment specified in section 8. Avoid inhalation and contact with skin and eyes.

6.2. Environmental precautions

Prevent spillage from entering drains and/or surface water. Notify proper authorities in case of contamination of soil or aquatic environment or discharge to drains.

6.3. Methods and material for containment and cleaning up

Contain and absorb spill with sand or other absorbent material and transfer to suitable waste containers. Rinse with water. See section 13 for instructions on disposal.

6.4. Reference to other sections

See above.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

See section 8 for information about precautions for use and personal protective equipment. All work must be carried out under well-ventilated conditions. Wash hands before breaks, before using restroom facilities, and at the end of work. Do not eat, drink or smoke during work. Running water and eye wash equipment must be available.

7.2. Conditions for safe storage, including any incompatibilities

Keep in tightly closed original packaging. Store in a cool, dry place.

7.3. Specific end use(s)

See section 1.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Occupational exposure limits according to EH40/2005 Workplace exposure limits (Second edition, 2011):

Substance	Long-term exposure limit	Short-term exposure limit	Note
Isocyanates	0,02 mg/m ³	0,07 mg/m ³	SEN

Sen = Capable of causing occupational asthma.

DNEL and PNEC values:

DNEL – 4,4'-methylenediphenyl diisocyanate:

Inhalation	Short term	Local effects	Workers	0.1 mg/m ³
Inhalation	Long Term	Local effects	Workers	0.05 mg/m ³
Inhalation	Short term	Local effects	General population	0.05 mg/m ³
Inhalation	Long Term	Local effects	General population	0.025 mg/m ³

PNEC – 4,4'-methylenediphenyl diisocyanate:

Water	Fresh	1 mg/L
Water	Marine	0.1 mg/L
Water	Intermittent releases	10 mg/L
Soil	-	1 mg/kg soil dw

PNEC – Diphenylmethane-2,4'-diisocyanate:

Water	Fresh	1 mg/L
Water	Marine	0.1 mg/L
Water	Intermittent releases	10 mg/L
Soil	-	1 mg/kg soil dw

PNEC – 2,2'-Methylenediphenyl diisocyanate:

Water	Fresh	1 mg/L
Water	Marine	100 µg/L
Soil	-	1 mg/kg soil dw

8.2. Exposure controls

There are no exposure scenarios for this product.

Appropriate engineering controls:

Wear the personal protective equipment specified below. Wash hands before breaks, before using restroom facilities, and at the end of the work. Do not eat, drink or smoke when using this product.

Personal protective equipment:



Breathing equipment:	In case of insufficient ventilation, wear respiratory protective equipment with filter A2P2.
Hand protection:	Wear protective gloves made of nitrile rubber.
Eye protection:	Wear safety goggles/face protection.
Body and skin protection:	Wear suitable protective clothing.

Environmental exposure controls:

Ensure compliance with local regulations for emissions.

SECTION 9: Physical and chemical properties**9.1. Information on basic physical and chemical properties**

Appearance:	Liquid, dark brown
Odour:	Earthy, musty
Odour threshold:	-
pH:	-
Melting point/ Freezing Point (°C):	5-10
Initial boiling point and boiling range (°C):	-
Flash point (°C):	>200
Evaporation rate (n-BuAc=1):	-
Flammability (solid, gas)	-
Upper / lower flammability or explosion limits (vol-%):	-
Vapour pressure (mbar):	<0,0001 hPa (20°C)
Vapour density (air=1)	-
Relative density:	1,2
Solubility(ies)	Immiscible
Partition coefficient: n-octanol/water:	-
Auto-ignition temperature (°C):	-
Decomposition temperature (°C):	ca. 260
Viscosity :	ca. 22,5 mPa.s (25°)
Explosive properties:	-
Oxidising properties:	-

9.2. Other information

Content of solids (%):	-
Curing time:	

SECTION 10: Stability and reactivity

10.1. Reactivity

Non-reactive.

10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions.

10.3. Possibility of hazardous reactions

Exothermic reaction with amines and alcohols; reacts with water forming CO₂; in closed containers, risk of bursting owing to increase of pressure.

10.4. Conditions to avoid

This information is not available.

10.5. Incompatible materials

Avoid contact with strong acids, strong oxidising agents and epoxy activators.

10.6. Hazardous decomposition products

Product decomposes in fire conditions or when heated to high temperatures, and toxic gases such as CO_x and aldehydes may be released.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Substance	Route of exposure	Species	Test	Result
4,4'-methylenediphenyl diisocyanate	Oral	Rat	LD50	2000 mg/kg bw
4,4'-methylenediphenyl diisocyanate	Inhalation	Rat	LC50 / 4 h	367.95 mg/m ³ air
4,4'-methylenediphenyl diisocyanate	Dermal	Rabbit	LD50	400 mg/kg bw
Diphenylmethane-2,4'-diisocyanate	Oral	Rat	LD50	2000 mg/kg bw
Diphenylmethane-2,4'-diisocyanate	Inhalation	Rat	LC50	310 - 645 mg/m ³ air
Diphenylmethane-2,4'-diisocyanate	Dermal	Rat	LD50	9400 mg/kg bw
2,2'-Methylenediphenyl diisocyanate	Oral	Rat	LD50	2000 mg/kg bw
2,2'-Methylenediphenyl diisocyanate	Inhalation	Rat	LC50 / 4 h	310 - 527 mg/m ³ air
2,2'-Methylenediphenyl diisocyanate	Dermal	Rabbit	LD50	9400 mg/kg bw

Symptoms:

Inhalation: Harmful by inhalation. May cause allergy or asthma symptoms or breathing difficulties if inhaled.

Ingestion: Ingestion may cause discomfort.

Skin contact: Irritating to skin – may cause reddening. May cause an allergic skin reaction.

Eye contact: Irritating to eyes. Causes a burning sensation and tearing.

Long term effects:

May cause sensitization by inhalation and skin contact. Symptoms include cold, sneezing, breathing difficulties and hives. Reddening, swelling, blistering and ulceration may develop on the skin – often slowly. The product contains isocyanates which is suspected of causing cancer. May cause damage to organs through prolonged or repeated exposure.

SECTION 12: Ecological information

12.1. Toxicity

Substance	Test duration	Species	Test	Result
4,4'-methylenediphenyl diisocyanate	96 h	Fish	LC50	> 1000 mg/L
4,4'-methylenediphenyl diisocyanate	24 h	Daphnia	EC50	129.7 mg/L
4,4'-methylenediphenyl diisocyanate	72 h	Algae	EC50	> 1640 mg/L
Diphenylmethane-2,4'-diisocyanate	96 h	Fish	LC50	1000 mg/L
Diphenylmethane-2,4'-diisocyanate	24 h	Dafnia	EC50	129.7 mg/L
Diphenylmethane-2,4'-diisocyanate	3 d	Algea	EC50	1640 mg/L
2,2'-Methylenediphenyl diisocyanate	96 h	Fish	LC50	1 g/L
2,2'-Methylenediphenyl diisocyanate	24 h	Dafnia	EC50	129.7 - 1 000 mg/L
2,2'-Methylenediphenyl diisocyanate	72 h	Algea	EC50	1.64 g/L

12.2. Persistence and degradability

Substance	Biodegradability	Test	Result
4,4'-methylenediphenyl diisocyanate	Inherent	OECD Guideline 302 CF	0% after 28 days

12.3. Bioaccumulative potential

Substance	Potential bioaccumulation	LogPow	BCF
4,4'-methylenediphenyl diisocyanate resin	Yes	4,51	-
Diphenylmethane-2,4'-diisocyanate	Yes	4,51	-
2,2'-Methylenediphenyl diisocyanate	Yes	5,22	-

12.4. Mobility in soil

-

12.5. Results of PBT and vPvB assessment

The mixture does not meet the criteria for PBT or vPvB.

12.6. Other adverse effects

-

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Contact the local authorities.

EWC Code

08 05 01

Specific labelling

-

Contaminated packaging:

Uncleansed packaging is to be disposed of via the local waste-removal scheme.

SECTION 14: Transport information

The product is not covered by the rules for transport of dangerous goods by road and sea according to ADR and IMDG.

14.1 -14.4.

-

14.5. Environmental hazards

-

14.6. Special precautions for user

-

14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not relevant.

SECTION 15: Regulatory information

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

Persons already sensitised to diisocyanates may develop allergic reactions when using this product. Persons suffering from asthma, eczema or skin problems should avoid contact, including dermal contact, with this product. This product should not be used under conditions of poor ventilation unless a protective mask with an appropriate gas filter (i.e. type A1 according to standard EN 14387) is used.

Persons suffering from asthma or eczema, and persons with chronic lung diseases or diagnosed skin- or respiratory allergy against isocyanates must not work with the product. Persons with severely sweaty hands (hyperhidrosis manuum) must not work with the product.

Restrictions for application:

Special care should be applied for employees under the age of 18. Young people under the age of 18 may not carry out any work causing harmful exposure to this product. Young people above 15 years are exempted this rule, if the product is a part of an education/training.

Demands for specific education:

-

Additional labelling:

-

15.2. Chemical safety assessment

Chemical safety assessment has not been performed.

SECTION 16: Other information

Other information:**Sources:**

EC regulation 1907/2006 (REACH).

Directive 2000/532/EC.

EC Regulation 1272/2008 (CLP).

EH40/2005 WELs (United Kingdom (UK), 8/2007).

Full text of H-phrases as mentioned in section 2+3:

H315-Causes skin irritation.

H317-May cause an allergic skin reaction.

H319-Causes serious eye irritation.

H332-Harmful if inhaled.

H334-May cause allergy or asthma symptoms or breathing difficulties if inhaled.

H335-May cause respiratory irritation.

H351-Suspected of causing cancer.

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

EUH204-Contains isocyanates. May produce an allergic reaction.

Other

-

Minor changes have been made in following sections:

-

This material safety data sheet replaces version:

-
