

Material Safety Data Sheet

SDS date: 26-09-2017

SDS version: 1.0

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

1.1. Product Identifier

Trade Name: ACCU DYNE TESTTM Marker Pens

Product- no.: Dyn 35-42

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

Recommended uses: Test liquid for measuring of surface tension. Professional use only.

1.3. Details of the supplier of the safety data sheet

Company and address

Vetaphone A/S

Fabriksvej 11

DK-6000 Kolding

Tlf.: +45 76 30 03 33

Fax: +45 76 30 03 34

Contact person and E-mail:

spareparts@vetaphone.com

The Safety data sheet is completed and validated by:

mediator A/S, Centervej 2, DK-6000 Kolding. Consultant: DH

1.4. Emergency telephone number

NHS: 111.

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): Flam. Liq. 3;H226, Acute Tox. 4;H302+H332, Repr. 1B;H360FD.

See full text of H-phrases in section 16.

2.2. Label elements



Signal word:

Danger

According to EU regulation 1907/2006 (REACH)

Flammable liquid and vapour. (H226)

Harmful if swallowed or if inhaled. (H302+H332)

May damage fertility. May damage the unborn child. (H360FD)

Obtain special instructions before use. (P201)

Do not handle until all safety precautions have been read and understood. (P202)

Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. (P210)

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

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

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

Store locked up. (P405)

2.3. Other hazards

The product contains a small amount of organic solvents. Repeated exposure to organic solvents may cause damage to the central nervous system and internal organs fx. liver and kidney.

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 |
|-------------------------------------|--------------|-------------------------|--|---------|------|
| 2-Ethoxyethanol | 603-012-00-X | 110-80-5/ 203-804-1 | Flam Liq. 3;H226, Acute Tox. 4;H302, Acute Tox. 3;H331, Repr. 1B;H360FD | 28,5-65 | 1+2 |
| Formamide | 616-052-00-8 | 75-12-7/ 200-842-0 | Repr. 1B;H360D | 35-71,5 | 1+2 |
| Basic Violet 1 (Methylviolet 28) | - | 8004-87-3/ 616-846-4 | Acute Tox. 4;H302, Eye Irrit. 2;H319 | 0,3 | - |

1 = The substance is an organic solvent. 2 = The substance is on the candidate list.

For the wording of the listed risk phrases refer to 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 immediately. |
| 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 with soap and water. Seek medical advice immediately. |
| 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. |
| Burns: | Flush with water until pain ceases. Remove clothing that is not stuck to the skin – seek medical advice/transport to hospital. If possible, continue flushing until medical attention is obtained. |
| 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

Harmful if swallowed or if inhaled.

Reproductive toxicity: This product contains teratogenic substances which can do long-term damage to human offspring. The effects on the child can be: death, deformity, delayed development, and functional disorders.

Reproductive toxicity: This product contains substances which can do damage to reproductive capacity, e.g. damage to germ cells or hormonal regulation. The effects can be: sterility, reduced fertility, menstruation disorders, etc.

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

Flammable liquid and vapour. 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.

Hazardous fumes are formed in fire conditions.

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. Avoid static electricity. Avoid breathing and contact with skin and eyes.

6.2. Environmental precautions

Avoid unnecessary release to the environment - See section 12. 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, non-combustible material and transfer to suitable waste containers. 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. Work under effective process ventilation. Wash hands before breaks, before using restroom facilities, and at the end of work. Do not eat, drink or smoke when using this product. Smoking and naked flames prohibited. Running water and eye wash equipment must be available.

7.2. Conditions for safe storage, including any incompatibilities

The product should be stored away from food, animal feeding stuffs, medicines, etc. Keep in tightly closed original packaging. Store in a dry, cool, well-ventilated area. Store locked up.

Store fireproof. Storage for flammable liquids must follow local regulations for flammable stock.

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 |
|-----------------|-------------------------------|-------------------------------|------|
| 2-Ethoxyethanol | 2 ppm - 8 mg/m ³ | - | Sk |
| Formamide | 20 ppm - 37 mg/m ³ | 30 ppm - 56 mg/m ³ | - |

Sk = Can be absorbed through the skin.

DNEL and PNEC values:

DNEL - 2-Ethoxyethanol:

| | | | | |
|------------|-----------|------------------|---------|----------------------|
| Dermal | Long Term | Systemic effects | Workers | 300 µg/kg bw/day |
| Inhalation | Long Term | Systemic effects | Workers | 83 µg/m ³ |

DNEL – Formamide:

| | | | | |
|------------|-----------|------------------|---------|------------------------|
| Dermal | Long Term | Systemic effects | Workers | 952 µg/kg bw/day |
| Inhalation | Long Term | Systemic effects | Workers | 660 µg/m ³ |
| Inhalation | Long Term | Local effects | Workers | 6.66 mg/m ³ |

PNEC - 2-Ethoxyethanol:

| | | |
|-------|-----------------------|----------|
| Water | Fresh | 1 mg/L |
| Water | Marine | 100 µg/L |
| Water | Intermittent releases | 10 mg/L |

PNEC – Formamide:

| | | |
|-------|-----------------------|-------------------|
| Water | Fresh | 500 µg/L |
| Water | Marine | 500 µg/L |
| Water | Intermittent releases | 5 mg/L |
| Soil | - | 151 µg/kg soil dw |

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. Wear the personal protective equipment specified below.

Personal protective equipment:



| | |
|---------------------------|--|
| Breathing equipment: | In case of insufficient ventilation, wear respiratory protective equipment. Use air-supplying respiratory protective equipment as the product contains liquids with a low boiling point which are poorly adsorbed on charcoal filters. |
| Hand protection: | Wear protective gloves made of butyl rubber. Change gloves immediately if contaminated, and wash hands with soap and water. |
| Eye protection: | Wear safety goggles/face protection. |
| Body and skin protection: | Wear suitable protective clothing. |

Environmental exposure controls:

Make sure that when using the product damming material is available in immediate vicinity. If possible use spillage tray during work.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

| | |
|---|--------------------------|
| Appearance: | Blue-Violet Liquid |
| Odour: | Mild - Weak ammonia-like |
| Odour threshold: | - |
| pH: | - |
| Melting point/ Freezing Point (°C): | - |
| Initial boiling point and boiling range (°C): | > 100 |
| Flash point (°C): | 45-60 |
| Evaporation rate: | - |
| Flammability (solid, gas) | - |
| Upper / lower flammability or explosion limits (vol-%): | - |
| Vapour pressure (mbar, 25 °C): | - |
| Vapour density (air=1) | - |
| Relative density: | Ca. 0,93-1,0 g/ml |
| Solubility(ies) | Miscible with water |
| Partition coefficient: n-octanol/water: | - |
| Auto-ignition temperature (°C): | - |
| Decomposition temperature (°C): | - |
| Viscosity (mm ² /sek): | - |
| Explosive properties: | - |
| Oxidising properties: | - |

9.2. Other information

| | |
|--------------------------------|---|
| Content of solids (%): | - |
| Surface tension (mN/m, 25 °C): | - |

SECTION 10: Stability and reactivity

10.1. Reactivity

Reacts with strong oxidizing agents (ex. nitric acid).

10.2. Chemical stability

The product is stable when used in accordance with the supplier's directions. Combustible at temperatures above the flash point.

10.3. Possibility of hazardous reactions

Vapours may form explosive mixtures with air.

10.4. Conditions to avoid

Avoid heating and contact with ignition sources.

10.5. Incompatible materials

Avoid contact with strong oxidising agents, strong bases, hydrogen peroxides, iodide, pyridine and sulphur oxides.

10.6. Hazardous decomposition products

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

SECTION 11: Toxicological information

11.1. Information on toxicological effects

| Substance | Route of exposure | Species | Test | Result |
|-----------------|-------------------|---------|------------|---------------|
| 2-Ethoxyethanol | Inhalation | Rat | LC50 / 8 h | 7.36 mg/L air |
| 2-Ethoxyethanol | Dermal | Rabbit | LD50 | 3.56 mL/kg bw |
| Formamide | Oral | Rat | LD50 | 5325 mg/kg bw |
| Formamide | Inhalation | Rat | LC50 (4 h) | 21 mg/L air |
| Formamide | Dermal | Rat | LD50 | 3000 mg/kg bw |

Symptoms:

Inhalation: Harmful if inhaled. The product releases organic solvent vapours which may cause lethargy and dizziness. At high concentrations, the vapours may cause headache and intoxication.

Ingestion: Harmful if swallowed.

Skin contact: May irritate the skin – may cause reddening. Can be absorbed through the skin with the same symptoms as for inhalation.

Eye contact: May cause eye irritation.

Long term effects:

May damage fertility. May damage the unborn child.

Prolonged or repeated exposure by skin contact or inhalation of vapours may cause damage to the central nervous system.

SECTION 12: Ecological information

12.1. Toxicity

| Substance | Test duration | Species | Test | Result |
|-----------------|---------------|---------|------|-----------|
| 2-Ethoxyethanol | 96 h | Fish | LC50 | 10 g/L |
| 2-Ethoxyethanol | 24 h | Daphnia | EC50 | 10 g/L |
| Formamide | 96 h | Fish | LC50 | 6.569 g/L |
| Formamide | 48 h | Daphnia | EC50 | 500 mg/L |
| Formamide | 72 h | Algae | EC50 | 500 mg/L |

12.2. Persistence and degradability

| Substance | Biodegradability | Test | Result |
|-----------------|------------------|----------------------|--------------------|
| 2-Ethoxyethanol | Yes | OECD Guideline 301 C | 83% after 14 days |
| Formamide | Yes | OECD Guideline 301 A | 99 % after 28 days |

12.3. Bioaccumulative potential

| Substance | Potential bioaccumulation | LogPow | BCF |
|-----------------|---------------------------|--------|-----|
| 2-Ethoxyethanol | No | 0.32 | - |
| Formamide | No | -0.82 | - |

12.4. Mobility in soil

-

12.5. Results of PBT and vPvB assessment

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

12.6. Other adverse effects

None.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Empty packaging must be disposed of through the municipal waste collection service for hazardous waste.

EWC Code

14 06 03

Specific labelling

-

Contaminated packaging:

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

SECTION 14: Transport information

The product is covered by the rules for transport of dangerous goods.

14.1 -14.4.

ADR

| UN-no.: | Proper shipping name | Transport hazard class(es) | Packing group |
|---------|---------------------------------|----------------------------|---------------|
| 1171 | ETHYLENE GLYCOL MONOETHYL ETHER | 3 | III |

IMDG

| UN-no.: | Proper shipping name | Transport hazard class(es) | Packing group |
|---------|---------------------------------|----------------------------|---------------|
| 1171 | ETHYLENE GLYCOL MONOETHYL ETHER | 3 | III |

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

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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.

The product is classified as toxic. Sale and storage must follow local regulations for toxic products.

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).

EC Regulation 178/2002.

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

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

H226 - Flammable liquid and vapour.

H302 - Harmful if swallowed.

H302+H332 - Harmful if swallowed or if inhaled.

H319 - Causes serious eye irritation.

H331 - Toxic if inhaled.

H360FD - May damage fertility. May damage the unborn child.

Other

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Minor changes have been made in following sections:

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This material safety data sheet replaces version:

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