

SECTION 1: Identification of the substance/mixture and of the company/undertaking**1.1. Product identifier**

Product form : Mixture
Product name : DYNE TEST SOLUTIONS TYPE "A" 30-33 DYNES/cm²(mN/m)

1.2. Relevant identified uses of the substance or mixture and uses advised against**1.2.1. Relevant identified uses**

Main use category : Industrial use

1.2.2. Uses advised against

No additional information available

1.3. Details of the supplier of the safety data sheet

Dyne Testing Limited
8 The Beech Tree, Elmhurst Business Park
Park Lane, Lichfield, WS13 8EX
Staffordshire - United Kingdom
T +44 (0) 1543 411460
sales@dynetesting.com - <http://www.dynetesting.com/>

1.4. Emergency telephone number

Emergency number : +44 (0) 1543 411460
Office hours only.

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification according to Regulation (EC) No. 1272/2008 [CLP]**

Flammable liquids, Category 3	H226
Acute toxicity (oral), Category 4	H302
Acute toxicity (inhalation:dust,mist) Category 3	H331
Reproductive toxicity, Category 1B	H360
Full text of H statements : see section 16	

Adverse physicochemical, human health and environmental effects

Flammable liquid and vapour. May damage fertility or the unborn child. Toxic if inhaled. Harmful if swallowed.

2.2. Label elements**Labelling according to Regulation (EC) No. 1272/2008 [CLP]**

Hazard pictograms (CLP) :



GHS02

GHS06

GHS08

Signal word (CLP) :

Danger

Contains :

formamide; 2-ethoxy Ethanol

Hazard statements (CLP) :

H226 - Flammable liquid and vapour.

H302 - Harmful if swallowed.

H331 - Toxic if inhaled.

H360 - May damage fertility or the unborn child.

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Precautionary statements (CLP) : P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P261 - Avoid breathing fume, mist, spray, vapours.
P280 - Wear eye protection, protective clothing, protective gloves.
P301+P312 - IF SWALLOWED: Call a POISON CENTRE or doctor if you feel unwell.
P303+P361+P353 - IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water .
P304+P340 - IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313 - IF exposed or concerned: Get medical advice/attention.

2.3. Other hazards

No additional information available

SECTION 3: Composition/information on ingredients

3.1. Substances

Not applicable

3.2. Mixtures

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
2-ethoxy Ethanol substance listed as REACH Candidate (2-Ethoxyethanol)	(CAS-No.) 110-80-5	≥ 80	Flam. Liq. 3, H226 Acute Tox. 4 (Oral), H302 Acute Tox. 3 (Inhalation:dust,mist), H331 Repr. 1B, H360FD
formamide substance listed as REACH Candidate	(CAS-No.) 75-12-7 (EC-No.) 200-842-0 (EC Index-No.) 616-052-00-8 (REACH-no) 01-2119496064-35	1 - 20	Repr. 1B, H360D

Full text of H-statements: see section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

First-aid measures general : IF exposed or concerned: Get medical advice/attention. 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. Call a doctor.
First-aid measures after skin contact : Rinse skin with water/shower. Take off immediately all contaminated clothing.
First-aid measures after eye contact : Rinse eyes with water as a precaution.
First-aid measures after ingestion : Rinse mouth. Call a poison center or a doctor if you feel unwell.

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

Symptoms/effects : Toxic if inhaled. Harmful if swallowed. May damage fertility. May damage the unborn child.
Symptoms/effects after inhalation : May be fatal if inhaled. Irritation to the respiratory tract.
Symptoms/effects after skin contact : May be harmful in contact with skin. May cause irritation to skin.
Symptoms/effects after eye contact : May cause eye irritation.
Symptoms/effects after ingestion : Harmful if swallowed. Swallowing a small quantity of this material will result in serious health hazard.

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

Treat symptomatically. Call a doctor.

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SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media : Foam. Dry powder. Carbon dioxide. Water spray. Sand.
Unsuitable extinguishing media : Do not use a heavy water stream.

5.2. Special hazards arising from the substance or mixture

Fire hazard : Flammable liquid and vapour.
Explosion hazard : Heating may cause an explosion. Vapours may form explosive mixture with air.
Hazardous decomposition products in case of fire : Toxic fumes may be released.

5.3. Advice for firefighters

Precautionary measures fire : Exercise caution when fighting any chemical fire.
Firefighting instructions : Fight fire with normal precautions from a reasonable distance. Avoid fire-fighting water entering the environment.
Protection during firefighting : Do not attempt to take action without suitable protective equipment. Self-contained breathing apparatus. Complete protective clothing.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

General measures : Ventilate area.

6.1.1. For non-emergency personnel

Protective equipment : Do not attempt to take action without suitable protective equipment. For further information refer to section 8: "Exposure controls/personal protection".
Emergency procedures : No open flames, no sparks, and no smoking. Only qualified personnel equipped with suitable protective equipment may intervene. Avoid breathing fume, mist, spray, vapours.

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".
Emergency procedures : Ventilate area. Evacuate unnecessary personnel.

6.2. Environmental precautions

Avoid release to the environment. Notify authorities if product enters sewers or public waters.

6.3. Methods and material for containment and cleaning up

For containment : Absorb spillage.
Methods for cleaning up : Absorb with liquid-binding material (e.g. sand, diatomaceous earth, acid- or universal binding agents). Place in a suitable container for disposal in accordance with the waste regulations (see Section 13).
Other information : Dispose of materials or solid residues at an authorized site.

6.4. Reference to other sections

For further information refer to section 8: "Exposure controls/personal protection". For disposal of solid materials or residues refer to section 13 : "Disposal considerations".

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Additional hazards when processed : Flammable vapours may accumulate in the container.

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- Precautions for safe handling : Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Use only non-sparking tools. Take precautionary measures against static discharge. Use explosion-proof equipment. Ground/bond container and receiving equipment. Flammable vapours may accumulate in the container. Wear personal protective equipment. Do not handle until all safety precautions have been read and understood. Use only outdoors or in a well-ventilated area. Avoid breathing fume, mist, spray, vapours. Avoid contact during pregnancy/while nursing.
- Hygiene measures : Separate working clothes from town clothes. Launder separately. 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.
- Incompatible products : Strong acids. Strong bases. Strong oxidizing agents.
- Incompatible materials : Heat sources.
- Heat and ignition sources : No flames, no sparks. Eliminate all sources of ignition.
- Packaging materials : Keep only in original container.

7.3. Specific end use(s)

No additional information available

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

formamide (75-12-7)

United Kingdom - Occupational Exposure Limits

Local name	Formamide
WEL TWA (mg/m ³)	37 mg/m ³
WEL TWA (ppm)	20 ppm
WEL STEL (mg/m ³)	56 mg/m ³
WEL STEL (OEL STEL) [ppm]	30 ppm
Regulatory reference	EH40/2005 (Third edition, 2018). HSE

8.2. Exposure controls

Appropriate engineering controls:

Ensure good ventilation of the work station. Use spark-/explosionproof appliances and lighting system.

Personal protective equipment:

Avoid all unnecessary exposure. PPE compliant to the recommended EN/ISO or equivalent standards should be selected.

Materials for protective clothing:

Wear suitable coveralls to prevent exposure to the skin

Hand protection:

Protective gloves

Eye protection:

Chemical goggles or safety glasses

Skin and body protection:

Wear suitable protective clothing

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Respiratory protection:

Wear respiratory protection. Where exposure through inhalation may occur from handling or use, respiratory protection equipment is required. Exposure limits for airborne contaminants must not be exceeded.

Environmental exposure controls:

Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	: Liquid
Colour	: Colourless.
Odour	: Odourless.
Odour threshold	: No data available
pH	: No data available
Relative evaporation rate (butylacetate=1)	: No data available
Melting point	: -90 °C
Freezing point	: No data available
Boiling point	: 135 °C
Flash point	: 42 °C
Auto-ignition temperature	: No data available
Decomposition temperature	: No data available
Flammability (solid, gas)	: Not applicable
Vapour pressure	: 5.1 hPa at 20 °C
Relative vapour density at 20 °C	: No data available
Relative density	: No data available
Solubility	: completely miscible.
Partition coefficient n-octanol/water (Log Pow)	: No data available
Viscosity, kinematic	: No data available
Viscosity, dynamic	: No data available
Explosive properties	: No data available
Oxidising properties	: No data available
Lower explosive limit (LEL)	: 1.8 vol %
Upper explosive limit (UEL)	: 14 vol %

9.2. Other information

No additional information available

SECTION 10: Stability and reactivity

10.1. Reactivity

Flammable liquid and vapour.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

No dangerous reactions known under normal conditions of use.

10.4. Conditions to avoid

Avoid contact with hot surfaces. Heat. No flames, no sparks. Eliminate all sources of ignition.

10.5. Incompatible materials

Strong acids. Strong bases. Strong oxidizing agents. copper.

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10.6. Hazardous decomposition products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Acute toxicity (oral) : Harmful if swallowed.
Acute toxicity (dermal) : Not classified
Acute toxicity (inhalation) : Toxic if inhaled.

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ATE CLP (oral)	625 mg/kg bodyweight
ATE CLP (dust,mist)	0.625 mg/l/4h

formamide (75-12-7)	
LD50 oral rat	5325 mg/kg
LD50 dermal rabbit	3000 mg/kg
LC50 Inhalation - Rat (Dust/Mist)	21 mg/l/4h

Skin corrosion/irritation : Not classified
Serious eye damage/irritation : Not classified
Respiratory or skin sensitisation : Not classified
Germ cell mutagenicity : Not classified
Carcinogenicity : Not classified

Reproductive toxicity : May damage fertility or the unborn child.

STOT-single exposure : Not classified

STOT-repeated exposure : Not classified

Aspiration hazard : Not classified

SECTION 12: Ecological information

12.1. Toxicity

Ecology - general : The product is not considered harmful to aquatic organisms nor to cause long-term adverse effects in the environment.
Hazardous to the aquatic environment, short-term (acute) : Not classified
Hazardous to the aquatic environment, long-term (chronic) : Not classified

formamide (75-12-7)	
LC50 fish 1	6.569 mg/l
ErC50 (algae)	> 500 mg/l

12.2. Persistence and degradability

No additional information available

12.3. Bioaccumulative potential

No additional information available

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12.4. Mobility in soil

No additional information available

12.5. Results of PBT and vPvB assessment

Component	
formamide (75-12-7)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII
2-ethoxy Ethanol (110-80-5)	This substance/mixture does not meet the PBT criteria of REACH regulation, annex XIII This substance/mixture does not meet the vPvB criteria of REACH regulation, annex XIII

12.6. Other adverse effects

No additional information available






SECTION 13: Disposal considerations

13.1. Waste treatment methods

Regional legislation (waste)	: Disposal should be according to local, state or national legislation.
Waste treatment methods	: Dispose of contents/container in accordance with licensed collector's sorting instructions.
Product/Packaging disposal recommendations	: Dispose of contents/container to hazardous or special waste collection point, in accordance with local, regional, national and/or international regulation.
Additional information	: Flammable vapours may accumulate in the container.
Ecology - waste materials	: Avoid release to the environment.

SECTION 14: Transport information

In accordance with ADR / RID / IMDG / IATA / ADN

ADR	IMDG	IATA	ADN	RID
14.1. UN number				
UN 1171	UN 1171	UN 1171	UN 1171	UN 1171
14.2. UN proper shipping name				
ETHYLENE GLYCOL MONOETHYL ETHER	ETHYLENE GLYCOL MONOETHYL ETHER	Ethylene glycol monoethyl ether	ETHYLENE GLYCOL MONOETHYL ETHER	ETHYLENE GLYCOL MONOETHYL ETHER
Transport document description (ADR)				
UN 1171 ETHYLENE GLYCOL MONOETHYL ETHER, 3, III, (D/E)	UN 1171 ETHYLENE GLYCOL MONOETHYL ETHER, 3, III (40°C c.c.)	UN 1171 Ethylene glycol monoethyl ether, 3, III	UN 1171 ETHYLENE GLYCOL MONOETHYL ETHER, 3, III	UN 1171 ETHYLENE GLYCOL MONOETHYL ETHER, 3, III
14.3. Transport hazard class(es)				
3	3	3	3	3
				
14.4. Packing group				
III	III	III	III	III
14.5. Environmental hazards				
Dangerous for the environment : No	Dangerous for the environment : No Marine pollutant : No	Dangerous for the environment : No	Dangerous for the environment : No	Dangerous for the environment : No

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No supplementary information available

14.6. Special precautions for user

Overland transport

Classification code (ADR)	: F1
Limited quantities (ADR)	: 5I
Excepted quantities (ADR)	: E1
Packing instructions (ADR)	: P001, IBC03, LP01, R001
Mixed packing provisions (ADR)	: MP19
Portable tank and bulk container instructions (ADR)	: T2
Portable tank and bulk container special provisions (ADR)	: TP1
Tank code (ADR)	: LGBF
Vehicle for tank carriage	: FL
Transport category (ADR)	: 3
Special provisions for carriage - Packages (ADR)	: V12
Special provisions for carriage - Operation (ADR)	: S2
Hazard identification number (Kemler No.)	: 30
Orange plates	:



Tunnel restriction code (ADR)	: D/E
EAC code	: •2Y

Transport by sea

Limited quantities (IMDG)	: 5 L
Excepted quantities (IMDG)	: E1
Packing instructions (IMDG)	: P001, LP01
IBC packing instructions (IMDG)	: IBC03
Tank instructions (IMDG)	: T2
Tank special provisions (IMDG)	: TP1
EmS-No. (Fire)	: F-E
EmS-No. (Spillage)	: S-D
Stowage category (IMDG)	: A
Flash point (IMDG)	: 40°C c.c.
Properties and observations (IMDG)	: Colourless liquid. Flashpoint: 40°C c.c. Explosive limits: 1.7% to 15.6% Miscible with water.

Air transport

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)	: 60L
CAO packing instructions (IATA)	: 366
CAO max net quantity (IATA)	: 220L
ERG code (IATA)	: 3L

Inland waterway transport

Classification code (ADN)	: F1
Limited quantities (ADN)	: 5 L
Excepted quantities (ADN)	: E1
Equipment required (ADN)	: PP, EX, A
Ventilation (ADN)	: VE01
Number of blue cones/lights (ADN)	: 0

Rail transport

Classification code (RID)	: F1
Limited quantities (RID)	: 5L
Excepted quantities (RID)	: E1
Packing instructions (RID)	: P001, IBC03, LP01, R001
Mixed packing provisions (RID)	: MP19
Portable tank and bulk container instructions (RID)	: T2

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Portable tank and bulk container special provisions (RID) : TP1
Tank codes for RID tanks (RID) : LGBF
Transport category (RID) : 3
Special provisions for carriage – Packages (RID) : W12
Colis express (express parcels) (RID) : CE4
Hazard identification number (RID) : 30

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

Not applicable

SECTION 15: Regulatory information

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

15.1.1. EU-Regulations

Contains no REACH substances with Annex XVII restrictions

Contains a substance on the REACH candidate list in concentration $\geq 0.1\%$ or with a lower specific limit: Formamide (EC 200-842-0, CAS 75-12-7), 2-Ethoxyethanol (CAS 110-80-5)

Contains no REACH Annex XIV substances

Contains no substance subject to Regulation (EU) No 649/2012 of the European Parliament and of the Council of 4 July 2012 concerning the export and import of hazardous chemicals.

Contains no substance subject to Regulation (EU) No 2019/1021 of the European Parliament and of the Council of 20 June 2019 on persistent organic pollutants

15.1.2. National regulations

No additional information available

15.2. Chemical safety assessment

No chemical safety assessment has been carried out

SECTION 16: Other information

Abbreviations and acronyms:	
ADN	European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE	Acute Toxicity Estimate
BLV	Biological limit value
CAS-No.	Chemical Abstract Service number
CLP	Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008
DMEL	Derived Minimal Effect level
DNEL	Derived-No Effect Level
EC50	Median effective concentration
EC-No.	European Community number
EN	European Standard
IATA	International Air Transport Association
IMDG	International Maritime Dangerous Goods
LC50	Median lethal concentration
LD50	Median lethal dose
LOAEL	Lowest Observed Adverse Effect Level
NOAEC	No-Observed Adverse Effect Concentration

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NOAEL	No-Observed Adverse Effect Level
NOEC	No-Observed Effect Concentration
OEL	Occupational Exposure Limit
PBT	Persistent Bioaccumulative Toxic
PNEC	Predicted No-Effect Concentration
REACH	Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006
RID	Regulations concerning the International Carriage of Dangerous Goods by Rail
SDS	Safety Data Sheet
vPvB	Very Persistent and Very Bioaccumulative
WGK	Water Hazard Class

Full text of H- and EUH-statements:

Acute Tox. 3 (Inhalation:dust,mist)	Acute toxicity (inhalation:dust,mist) Category 3
Acute Tox. 4 (Oral)	Acute toxicity (oral), Category 4
Flam. Liq. 3	Flammable liquids, Category 3
Repr. 1B	Reproductive toxicity, Category 1B
Repr. 1B	Reproductive toxicity, Category 1B
H226	Flammable liquid and vapour.
H302	Harmful if swallowed.
H331	Toxic if inhaled.
H360	May damage fertility or the unborn child.
H360D	May damage the unborn child.
H360FD	May damage fertility. May damage the unborn child.

SDS EU (REACH Annex II)

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.