

SAFETY DATA SHEET**1. IDENTIFICATION OF THE CHEMICAL AND THE MANUFACTURER, IMPORTER OR OTHER OPERATOR****1.1 Identification of the substance or preparation****Trade name**

Motoväri G Sininen (blue) / Punainen (red)

Code of the preparation

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1.2 Identification of the manufacturer, importer or other operator**1.2.1 Manufacturer, importer, other operator**

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 Energiakuja 2,
 FIN-74120 Iisalmi,
 Telephone: +358 (0)17 818
 265/ mobile: +358 (0)440
 363 535,
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1.2.3 Name and address of the informant in emergency cases

Myrkytystietokeskus (Poison information centre), Haartmaninkatu 4, FIN-00290
 Helsinki

Emergency number

+358 (0)9 471 977 - 24h (+358 (0)9 4711 exchange)

1.2.4 Information on foreign manufacturer

Importer of ethylene glycol: Aspokem Oy

2. CHEMICAL COMPOSITION AND INFORMATION ON INGREDIENTS**2.1 Description**

Liquid for staining wood, contains ethylene glycol

2.2 Hazardous ingredients

2.2.1 CAS number	2.2.2 Name of the ingredient	2.2.3 Concentration	2.2.4 Warning symbol, R- phrases and other information
107-21-1	1,2-ethanediol; ethylene glycol	54- w-%	Xn, R22, Harmful if swallowed

2.2.5 Full chemical name of the substance

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2.2.6 Further information

The EINECS number for 1,2-ethanediol (ethylene glycol) is 203-473-3.

3. DESCRIPTION OF HAZARDOUS PROPERTIES

The product is classified as harmful if swallowed.

4. FIRST AID INSTRUCTIONS

4.1 Special instructions

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4.2 Inhalation

Remove the patient to fresh air. Take the patient to doctor if the symptoms keep arising.

4.3 Skin

Remove the contaminated clothing. Wash the skin with water and soap. Go to doctor if irritating symptoms keep arising or by long-term skin contact.

4.4 Splashes in eyes

Rinse your eyes immediately with plenty of water. Keep rinsing for several minutes. Remove your contact lenses. Go to doctor.

4.5 Ingestion

If a person swallows some of the product but stays fully conscious, give them two glasses of water to drink. The patient should be made to vomit. It is recommended that this is made by a qualified person. Take the patient immediately to hospital.

4.6 Information for doctor or other qualified persons giving first aid

If doctor's help is not available soon, give a person who has swallowed a bit of the product (=> 50 ml of pure ethylene glycol) 100 ml alcohol, such as whisky. A child must be given less alcohol in relation to its weight. An estimated fatal portion to an adult is app. 1.0 ml/kg of pure ethylene glycol.

5. INSTRUCTIONS FOR FIRE FIGHTING

5.1 Suitable media for fire fighting

The product burns after the water has evaporated. Extinguish big fires by alcohol-resistant foam or water dust. Extinguish small fires by carbon dioxide or powder.

5.2 Media which must not be used for safety reasons

Do not use a non-stop water or foam spray against a hot, burning object because this could cause foaming and increase the fire.

5.3 Special exposure risks caused by fire

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5.4 Special protective equipment against fire

Compressed air line breathing apparatus and protective clothing

5.5 Further instructions

Cool the containers, which are likely to catch fire, with water jets.

6. INSTRUCTIONS FOR PREVENTING EMISSIONS

6.1 Personal precautions

Use appropriate protective equipment (see paragraph 8.3).

6.2 Environmental precautions

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6.3 Instructions for cleaning up

Collect the liquid into an inert absorbent substance, e.g. sawdust or peat, in suitable

containers that can be closed. Rinse the rest with plenty of water.

6.4 Further instructions

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7. HANDLING AND STORAGE

7.1 Handling

Sufficient ventilation in the workplace is important. Avoid fogs. Avoid getting liquid into your eyes. Avoid inhaling fogs or vapours repeatedly or for a long time. Do not ingest the liquid.

7.2 Storage

Tightly closed in a well air-conditioned place, isolated from effective oxidants and strong alkalis.

8. EXPOSURE PRECAUTIONS / PERSONAL PROTECTION

8.1 Technical measures

General ventilation is usually sufficient if the product is handled in a closed installation or under normal temperatures. Use local ventilation under high temperatures or when some fog could build up. Equipment for rinsing eyes and a safety shower are necessary.

8.2 Limit values for workplace air

8.2.1 HTP values

Name of the ingredient	1,2-Ethanediol; Ethylene glycol	vapour, 2000
	50 ppm (8 h)	75 ppm (15 min)
	130 mg/m ³ (8 h)	190 mg/m ³ (15 min)
Name of the ingredient	1,2-Ethanediol; Ethylene glycol	fog, 2000
	10 mg/m ³ (8 h)	20 mg/m ³ (15 min)

8.2.2 Other limit values

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8.3 Personal protective equipment

8.3.1 Special instructions for protection and hygiene

Have a careful wash after work. Wash dirty clothes before reuse.

8.3.2 Respiratory protection

Use standardized respiration protector (combination filter A/I/b) if the HTP values might be exceeded.

8.3.3 Hand protection

PVC safety gloves are recommended when handling ethylene glycol.

8.3.4 Eye protection

Safety goggles or a face protector

8.3.5 Skin protection

Protective overalls, high safety boots and a cap

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1	Physical state, colour and odour	Liquid, red or blue, mild characteristic odour
9.2	pH value	-
9.3	Information on changes in the physical state	
9.3.1	Boiling point/boiling range	Not determined (pure ethylene glycol: 197° C / 386.6° F)
9.3.2	Melting point/melting range	-44° C / -47.2° F (the product)
9.3.3	Decomposition temperature	-
9.4	Flash point	The product is an aqueous solution. (ethylene glycol: 111° C / 231.8° F)
9.5	Flammability (solid/gas)	-
9.6	Auto-ignition temperature	Not determined (ethylene glycol: 410° C / 770° F)
9.7	Explosion risk	-
9.8	Explosive limits	
	a) lower	Not determined
	b) upper	Not determined
9.10	Vapour pressure	0.1 hPa 20° C / 68° F, ethylene glycol
9.11	Relative density	1.052 (20° C / 68° F)
9.12	Solubility	
	a) water solubility	The product is an aqueous solution.
	b) fat solubility	-
9.13	Partition coefficient (for ingredients): octanol/water	
	-, ethylene glycol: log Pow: -1.36	
9.14	Viscosity	-
9.15	Further information	
	The product contains 54 w-% of ethylene glycol, which is heavier than water. Ethylene glycol vapour density is 2.1 (air = 1) and relative volatility is 0.01 (butyl acetate = 1).	

10. STABILITY AND REACTIVITY

10.1 Conditions to avoid

The product contains ethylene glycol, the hot vapours and fogs of which might ignite spontaneously below (auto-)ignition temperature, especially when they flow off from a pressure system or when air suddenly flows into a vacuum system.

10.2 Materials to avoid

The product contains ethylene glycol, which might explode under high temperatures together with strong acids or alkalis. Avoid effective oxidants and substances that are likely to react with hydroxyl compounds.

10.3 Harmful decomposition products

After evaporation of water the residue might build up carbon monoxide and/or carbon dioxide while it burns. Carbon monoxide is poisonous if inhaled, carbon dioxide might have a suffocating effect if the concentration is high enough.

11. HEALTH EFFECTS

11.1 Acute toxicity

The product has not been tested.

Ethylene glycol: LD50 = 4700 mg/kg, through mouth, rat LD50 = 9530 mg/kg, through skin, rabbit.

11.2 Irritancy and corrosivity

The product has not been tested. Ethylene glycol has been tested on its irritating effects with following results: 555 mg, on rabbit's skin (open test); slightly irritating effect

1440 mg/6h, in rabbit's eyes; moderately irritating effect

11.3 Sensitization

There is no data concerning the product. Ethylene glycol in repetitive contact with skin might cause a hypersensitive reaction, which is manifested by allergic rash.

11.4 Subacute, sub chronic and prolonged toxicity

The product has not been tested. High concentrations or big amounts of ethylene glycol have been proved to cause teratogenic effects on rats and mice depending on the amount.

11.5 Empirical data on effects on humans

INHALATION: Inhaling ethylene glycol vapours might irritate nose and throat and cause headache. High concentrations of vapours might cause sickness, vomiting, headache and dizziness.

SKIN: See paragraph Sensitization.

SPLASHES IN EYES: Ethylene glycol vapours irritate eyes. High concentrations of vapours might cause irregular moving of eyes.

INGESTION: The product is classified as harmful if swallowed. The product contains ethylene glycol, which may cause heart insufficiency, pulmonary edema and severe kidney damages. Ethylene glycol may cause a mortal danger.

11.6 Further information on health effects

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12. ENVIRONMENTAL RISKS CAUSED BY THE CHEMICAL**12.1 Persistence in the environment****12.1.1 Biodegradation**

Ethylene glycol: biological oxygen demand in 5 days: BOD5 =34%, BOD10 (10 days) = 86%, BOD20 (20 days) = 100%. Theoretical oxygen demand, ThOD = 1.30 mg/mg. Ethylene glycol is very biodegradable.

12.1.2 Chemical degradation

Chemical degradation of ethylene glycol, COD = 1.29 mg/mg

12.2 Bioaccumulation

Partition coefficient of ethylene glycol: log Pow = - 1.36, weak

12.3 Mobility in the environment

The product is an aqueous solution.

12.4 Toxic effects on organisms**12.4.1 Toxicity to aquatic organisms**

The product has not been tested.

Ethylene glycol: LC50 (96h): > 10.000 mg/l, fish (Fathead minnow)

LC50(48h): >10.000 mg/l, water flea (Daphnia magna)

IC50: > 10.000 mg/l, bacteria

According to the results (> 100 mg/l) ethylene glycol is not hazardous to water organisms.

12.4.2 Toxicity to other organisms

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12.5 Further information

The product contains colourant and should for aesthetic reasons not be discharged in water systems.

13. WASTE DISPOSAL

Bring the waste to a hazardous waste disposal plant or other place assigned by the municipal waste management authorities if you cannot utilize it. Very small quantities degrade biologically in a biological wastewater disposal plant. Bring empty containers to a place assigned by the municipal waste management authorities. Do not reuse empty containers unless they have been properly cleaned and restored.

14. TRANSPORT INFORMATION

14.1	UN number	-
14.2	Packaging category	-
14.3	Land transport	
14.3.1	Transport class ADR	The product has not been classified for transport.
14.3.2	Risk code	-
14.3.3	Name in the freight declaration	.
14.3.4	Further information	-
14.4	Sea transport	
14.4.1	IMDG class	-
14.4.2	Correct technical name	-
14.4.3	Further information	-
14.5	Air transport	
14.5.1	ICAO/IATA class	-
14.5.2	Correct technical name	-
14.5.3	Further information	-

15. REGULATORY INFORMATION ON THE CHEMICALS

15.1	Information on the warning label	
	EC number	-
15.1.1	Letter code and description of the warning symbol	
	Xn	Harmful
15.1.2	Names of the ingredients given on the warning label	
		1,2-Ethenediol; Ethylene glycol
15.1.3	R-phrases	
	R22	Harmful if swallowed.
15.1.4	S-phrases	
	S2	Keep out of reach of children.

15.1.5 Specific regulations on some preparations

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15.2 National regulations

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16. FURTHER INFORMATION**16.1 Purpose of use****16.1.1 Expressed in writing**

Staining timber in forest work

16.1.2 Code for the purpose of use

TOL: DD. Manufacturing of timber and wood products KT: 36. Other purpose of use

16.2 Instructions for use

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16.3 Further information

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16.4 Additional information available from

Jarmat Oy, Matti Kyllönen

16.5 Sources of information used for the compilation of the safety data sheetData sheet by Aspokem Oy: Monoethylene Glycol, 14th August 2000**Date** 26th September 2001