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Version: 1.0

Pages: 1 of 9

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SAFETY DATA SHEET
FRIZANTIN CONCENTRATE 100%
G12

According to Safety Data Sheet Regulation (Sl.Gl.RS 100/11)

SECTION 1. IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

***Subsection 1.1. Identification of the substance or mixture:**

Trade Name:
FRIZANTIN CONCENTRATE 100% G12
Contains Monoethyleneglycol; CAS: 107-21-1 ;EC: 203-473-3

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

Coolant for open and closed cooling systems. It is not recommended for use in any other purposes.

*** Subsection 1.3. Details of the supplier of the safety data sheet:**

Name:	ADECO d.o.o.
Status:	Downstream user and distributor
Address:	Temerinski put 109, 21000 Novi Sad, Srbija
Manufacturer's telephone:	+381 (0)21 678 00 80
Fax:	+381 (0)21 641 16 41
E-mail:	office@adeco.rs

*** Subsection 1.4 Emergency telephone:** +381 (0)21 678 00 80 (07-15 h)

Poison Control Centre telephone VMA: +381 (0)11 360 84 40 (24h/7)

SECTION 2. HAZARD IDENTIFICATION

*** Subsection 2.1. Classification of the substance:**

Classification of chemicals (mixtures) according to the Regulations on the classification, packaging, labeling and advertising chemicals and certain products in accordance with the Globally Harmonized System of classification and labeling UN („Sl.glasnik RS“, br.105/2013):

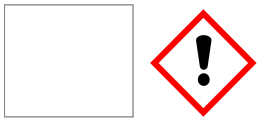
Acute Tox. Cat. 4 , H302
Eye irritation, category 2. , H319
STOT RE 2 - H373

*** Subsection 2.2. Label elements:**

Chemicals (mixture) is labeled as **hazardous** according to the Regulation on classification, packaging, labeling and advertising chemicals and certain products in accordance with the Globally Harmonized system for classification and labeling UN („Sl. glasnik RS“, br.105/2013):

Pictogram and signal word:

Warning! GHS07, GHS08



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Hazard:
H302 Harmful if swallowed
H319 Causes serious eye irritation.
H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed.

Precautionary statements (Prevention and Response):
P260 Do not breathe vapour/spray.
P264 Wash contaminated skin thoroughly after handling.
P270 Do not eat, drink or smoke when using this product.
P301+312 IF SWALLOWED: Immediately call a POISON CENTER /doctor
P314 Seek medical help if you are not feeling well
P330 Rinse mouth

Storage: -
Disposal: **P501** Dispose of contents/container in accordance with national regulations

Additional information on the label: -

*** Subsection 2.3. Other hazards:** This substance is not classified as PBT or vPvB according to current EU criteria
Specific hazards:

SECTION 3. COMPOSITION / INFORMATION ON INGREDIENTS

*** Subsection 3.1. Substance:** Not relevant
*** Subsection 3.1. Mixture:**
*** Classification according to EU Regulation 1272/2008 CLP/GHS:**
Ingredients:

No.	CAS number	EC number	REACH reg. number	Chemical name of the substance or the trade name for a mixture	Klasa i kategorija opasnosti, obaveštenje o opasnosti CLP/GHS pravilniku	Maseni udeo (%)
1.	107-21-1	203-473-3	01-2119456816-280004	Ethanediol	Acute Tox. 4 - H302 STOT RE 2 - H373	<96
2.	3164-85-0	221-625-7	01-2119980714-29-xxxx	Potassium 2-Ethylhexanoate	Skin Irrit. 2, H315 Eye Dam. 1, H318 Toks.po repr.kat.2, H361	< 2

SECTION 4: FIRST AID MEASURES

*** Subsection 4.1. Description of first aid measures:**
Eye contact: Rinse immediately with plenty of water, also under the eyelids, for at

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	least 15 minutes. Remove contact lenses, if present. In case of any effects contact an ophthalmologist.
Skin contact:	Immediately remove all contaminated clothes. Wash off with soap and plenty of water. In case of irritation symptoms seek medical advice.
Inhalation:	Move affected person to fresh air at once. If breathing stops, provide artificial respiration. When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention if any discomfort continues.
Ingestion:	Do not induce vomiting. If swallowed, give a glass of water or milk. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Rinse mouth thoroughly with water. Seek medical assistance.
***Subsection 4.2. Most important symptoms and effects, both acute and delayed:**	Harmful if swallowed. No specific symptoms known. Delayed effects are not expected in any case. Medical assistance is recommended.
*** Subsection 4.3. Indication of immediate medical attention and special treatment needed, if necessary:**	Quantities reaching the lungs may cause chemical pneumonitis. The person providing first aid in the zone where the concentration of vapours/mist is unknown should be equipped with appropriate protection for the respiratory tract. Indications for the physician: Treat symptomatically.

SECTION 5: FIREFIGHTING MEASURES

***Subsection 5.1. Extinguishing media**	Dry extinguishing media, foam, carbon dioxide, dry chemical. If a leakage or spill has been identified that is not on fire, use water mist to disperse vapors and protect the persons involved in stopping the leakage. Do not use a solid water jet as extinguishing media as this will spread the fire.
***Subsection 5.2. Special hazards arising from the substance or mixture:**	Containers can burst violently or explode when heated, due to excessive pressure build-up. Thermal decomposition or combustion products may include the following substances: Oxides of carbon
***Subsection 5.3. Precaution for firefighters:**	Use personal protective equipment for protection of firefighters, special firefighting suits and protective masks. Use water to keep fire exposed containers cool and disperse vapours.

SECTION 6. ACCIDENTAL RELEASE MEASURES

*** Subsection 6.1. Personal precautions, protective equipment and emergency procedures:**	Use personal protective equipment for protection.Avoid inhalation of vapours. Provide adequate ventilation.

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*** Subsection 6.2. Environmental precautions:**
Do not discharge into drains or watercourses or onto the ground. Avoid discharge to the aquatic environment. Spillages or uncontrolled discharges into watercourses must be reported immediately to the regulatory body. Identify and contain sources of spillage and waste.

*** Subsection 6.3. Methods and materials for containment and cleaning up**:
Do not touch damaged tanks or spilled material without suitable protective equipment. Collect the spilled material with non-combustible absorbent material, (e.g. sand, sawdust, dry soil and other inert materials). Remove large quantities of the material by pumping out. Wash off the contaminated area with large quantities of water. Dispose of waste material and removed contaminated surface layer into specifically prepared tanks, well closed, and keep stored until treatment, in well ventilated rooms. Hand it over to legal entities authorized for collection of hazardous waste. In case of major spills, when out of control, inform competent authorities.

*** Subsection 6.4. Reference to other sections:**
See Sections 8 and 13.

SECTION 7. HANDLING AND STORAGE

*** Subsection 7.1. Precautions for safe handling:**
Avoid inhalation of vapours/spray and contact with skin and eyes. Good personal hygiene procedures should be implemented. Provide adequate ventilation.
Do not eat, drink or smoke when using this product. Wash at the end of each work shift and before eating, smoking and using the toilet. Wash hands and any other contaminated areas of the body with soap and water before leaving the work site. Take off contaminated clothing and wash it before re-use.

*** Subsection 7.2. Conditions for safe storage, including any incompatibilities:**
Keep away from sources of ignition. Take precautionary measures against static electricity.
Store tightly closed containers in a dry, cool and well-ventilated area.
Recommended storage temperature:0-40 °C

*** Subsection 7.3. Specific uses:**
The identified uses for this product are detailed in Section 1.2.

SECTION 8. EXPOSURE CONTROL / PERSONAL PROTECTION

***Subsection 8.1. Occupational exposure limits:**
For Ethyleneglycol:
Long-term exposure limit (8-hour TWA): WEL 52 mg/m3
Short-term exposure limit (15-minute): WEL 104 mg/m3 (**EU*)**

*** Subsection 8.2. Exposure controls and personal protection:**
General safety and hygiene measures:
Provide ventilation to maintain the concentration of incoming vapors in air below recommended exposure limits.

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Hand protection:	Use chemically resistant gloves. Recommended materials: nitrile, neoprene, PVC. Break through time> 480 min.
Eye protection:	Use safety glasses with side shields.
Skin protection:	Protective clothing made of natural materials and footwear that covers the entire foot.
Respiratory protection:	In case of vapors wear a mask for respiratory protection. Avoid inhalation of vapors and aerosols.
Environmental exposure controls:	Prevent spilling into waterways, soil and sewage.

EU* - according to Directive 3000/39/EZ (first list)

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

***Subsection 9.1. Information on basic physical and chemical properties:**

Appearance:	Clear liquid
Color:	Pink
Odour	Odourless
Odour threshold:	No data available
pH of the chemical as supplied:	8 - 9
Boiling point, min.:	160 °C
Freezing point (50% aqueous solution),max:	- 37 °C
Flash point, min.:	120 °C
Evaporation rate:	No data available
Combustibility:	No data available
Lower/Upper flammable/explosive limit:	No data available
Vapour pressure:	approx. 2 mbar
Vapour density:	No data available
Relative density @ 20°C:	1,15 – 1,17 g/cm³
Solubility:	Miscible with water
n-octanol/water partition coefficient:	No data available
Auto-ignition temperature:	No data available
Decomposition temperature:	410°C
Viscosity:	20 – 30 mm²/s
Explosive properties;	No data available
Oxidizing properties:	No data available
***Subsection 9.2. Other information**	No data available

SECTION 10. REACTIVITY AND STABILITY

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*** Subsection 10.1. Reactivity:**	The product is stable at recommended temperatures and conditions of storage, handling and use.
*** Subsection 10.2. Chemical stability:**	Stable at normal ambient temperatures and when used as recommended
*** Subsection 10.3. Possibility of hazardous reactions:**	Will not polymerise
*** Subsection 10.4. Conditions to avoid:**	Avoid heat, flames and other sources of ignition. Avoid contact with strong oxidising agents.
*** Subsection 10.5. Incompatible materials:**	Strong oxides. Strong alkalis. Strong acids.
*** Subsection 10.6. Hazardous decomposition products:**	Heating may generate the following products: Oxides of carbon.CO, CO_2,

SECTION 11. TOXICOLOGICAL INFORMATION

*** Subsection 11.1. Information on toxicological effects - mixture:**

Information given is applicable to the major ingredient

a) Acute toxicity	For Ethylene glycol: *LD_{50} (human) 1400-1600 mg/kg *LD_{50} (rat, mouse, monkey) ≥4000 mg/kg
b)Skin corrosion, skin irritation:	Not irritating.
c)Serious eye damage / eye irritation:	Not irritating.
d)Sensitivity of respiratory or skin:	
e)Germ cell mutagenicity:	Not sensitising
f) Carcinogenicity	Not mutagenic
g)Reproductive toxicity:	No data available
h)Spec. Tox. target organ toxicity - single exposure	Not toxic Harmful if swallowed. Target organs: Kidneys
i)Spec. Tox. target organ toxicity - repeated exposure:	*NOAEL 200 mg/kg, Oral, Rat
j)Aspiration hazard:	May be harmful if swallowed and enters airways.

***Source**: Agency for toxic supstances and disease registry- - U.S. Department of health and human services - November 2010. (Page 11)

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SECTION 12. ECOLOGICAL INFORMATION

*** Subsection 12.1. Toxicity:**
The product is not expected to be hazardous to the environment. Information given is applicable to the major ingredient.

Ecotoxicity:	Acute toxicity - fish LC50, 96 hours, 72860 mg/l, Pimephales promelas (Fat-head Minnow)
**Literature	Acute toxicity - aquatic invertebrates EC_{50}, 48 hours, 48 hours: > 100 mg/l, Daphnia magna
	Acute toxicity - aquatic plants EC_{50}, 96 hours, 96 hours: > 6500 mg/l, Selenastrum capricornutum
	Acute toxicity microorganisms EC20, >: > 1995 mg/l, Activated sludge 30 Mins
	** US EPA (Environmental Protection Agency)
*** Subsection 12.2. Persistence and degradability**	Readily biodegradable. Degree of elimination >70% , OECD 302B; ISO 9888; 88/302/EEC, part C
*** Subsection 12.3. Bioaccumulative potential**	Bioaccumulation is not expected.
*** Subsection 12.4. Mobility in soil**	This material has low volatility and is water soluble hence the potential for mobility is high
*** Subsection 12.5. Results of PBT and vPvB assessment:**	This substance is not classified as PBT or vPvB according to current EU criteria
*** Subsection 12.6. Other adverse effects:**	None known.

SECTION 13. DISPOSAL CONSIDERATIONS

*** Subsection 13.1. Waste treatment methods:**

Waste disposal:	Waste is suitable for incineration. Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority.
Contaminated packaging:	Dispose of waste to licensed waste disposal site in accordance with the requirements of the local Waste Disposal Authority This material and container must be disposed of as a HAZARDOUS WASTE.
Applicable local regulations:	See section 15.

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SECTION 14. TRANSPORT INFORMATION

The product is not covered by international regulations on the transport of dangerous goods (IMDG, IATA, ADR/RID).

* **Subsection 14.1. UN No.:** Not applicable
* **Subsection 14.2. UN proper shipping name:** Not applicable
* **Subsection 14.3. Hazard class in transport:** Not applicable
* **Subsection 14.4. Packing group:** Not applicable
* **Subsection 14.5. Environmental hazard:** Not applicable
* **Subsection 14.6. Special precautions for users:** Not applicable
* **Subsection 14.7. Bulk transport:** Not applicable

SECTION 15. REGULATORY INFORMATION

- **Subsection 15.1. Health, safety and environment regulations:**

Applicable regulations:

- Law on Chemicals („Sl. glasnik RS“ br. 36/09, 88/10, 92/11, 93/12, 25/2015)
- Regulations on restrictions and bans of the production, marketing and use of chemicals that present an unacceptable risk to human health and environment(„Sl. glasnik RS“ br.89/10, 71/11, 90/11, 56/12,90/13, 25/15, 2/16, 44/17, 36/18)
- Rulebook on Classification, Packaging, Labelling and Advertising of Chemicals and Certain Articles Pursuant to UN Globally Harmonized System of Classification and Labelling („Sl. glasnik RS“ br. 64/10, 26/11, 105/13, 52/17)
- Safety Data Sheet Regulation („Sl. glasnik RS“ br.81/10, 100/11)
- Law on Environmental Protection („Sl. glasnik RS“ br. 135/04, 36/09, 36/09- i 72/09-, 43/2011 - US i 14/2016)
- Law on Waste Management („Sl. glasnik RS“ br. 36/09, 88/10, 14/2016)
- Law on Packaging and Packaging Waste („Sl. glasnik RS“ br. 36/09)
- Regulations on the storage, packaging and labeling of hazardous waste („Sl. glasnik RS“ br. 92/10)
- Regulations on preventive measures for safe and healthy work when exposed to chemical substances ("Sl. glasnik RS",br.106/2009).

*** Subsection 15.2. Chemical safety assessment:**

Not relevant

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SECTION 16. OTHER INFORMATION

a) data which have been modified, amended or deleted as compared to the previous version SDS:	Non
b)List of abbreviations and acronyms used in safety data sheet and explanations:	DNEL, *GVI- limit value, limit at long-term exposure TLV-STEL, *KGVI- limit value, limit at short-term exposure vPvB - very Persistent very Bio accumulative (substance) PBT - Persistent, Bio accumulative and toxic (substance) LD50 - Lethal Dose, for 50% of tested animalsTLV-TWA -granična vrednost LC50- Lethal Concetration, for 50% of tested animals UVCB -Unknown supstances, changeable composition or of biological origin **EC50 – Max efective concentrate
c)list of references and sources used for preparation of SDS	*Source: Agency for toxic supstances and disease registry- - U.S. Department of health and human services - November 2010. **Source: US EPA (Environmental Protection Agency) The legislation cited in Sections 2-15 of Safety Data Sheet.
d) information on data assesment method in compliance with CLP/GHS rulebook:	Data on hazard assessments of the mixture were obtained by using the method of calculations described in Annex 2, 3 and 4 of the Rulebook on Classification, Packaging, Labelling and Advertising of Chemicals and Certain Articles Pursuant to UN Globally Harmonized System of Classification and Labelling („Sl. glasnik RS“ br. 64/10, 26/11, 105/13)
e)list of risk phrases (H phrases) with relevant wording, designation of safety	H302 Harmful if swallowed H361d Suspected of damaging fertility or the unborn child H373 May cause damage to organs (Kidneys) through prolonged or repeated exposure if swallowed. H411 Toxic to aquatic organisms with a long-term adverse effects
(P phrases) with relevant wording, listed in SDS	P260 Do not breathe vapour/spray. P264 Wash contaminated skin thoroughly after handling. P270 Do not eat, drink or smoke when using this product. P301+312 IF SWALLOWED: Immediately call a POISON CENTER /doctorl P314 Seek medical advise if you are not feeling well

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	P330 Rinse mouth P501 Dispose of contents of packaging in accordance with local regulations
f)Advise on adequate employee training on health and environmental safety:	Employees who use the product should be trained about the risks to health, hygiene, use of personal protection equipment, preventive measures to avoid accidents, rescue procedures.

The information in this Safety Data Sheet is provided in accordance with our current knowledge of this product and is subject to change. The product must not be used for purposes other than those specified in the manual.