

*Brake fluids DOT-4
Safety data sheet / SDS*

Version: 5.8 Date: 06.06.16

In accordance with Commission Directive (EU) №453/2010


1. MIXTURE AND COMPANY IDENTIFICATION

1.1 Product identifier	
Mixture name	Brake fluid DOT-4
Trade name	VAMP / BAMI
No.ES	see Sec. 3
No.CAS	see Sec. 3
Molecular formula	Mixture
1.2 Relevant and specified usage of the substance or mixture and its contraindicated usage	
Specified usage	Brake fluids, Hydraulic fluids
Contraindicated usage	
1.3 Information about the supplier of safety data sheet	
Manufacturer	GT Arena EOOD 30 William Gladstone Str., 2nd Floor. 1000 Sofia, Bulgaria
Responsible person	+359 896 817 853 Technical department
1.4 Emergency contact phone number	
+359 896 817 853 Emergency telephone information in the purchasing side's country, has to be indicated by the buyer +359 896 817 853	

2. HEALTH HAZARD IDENTIFICATION

Classification according to Regulation (EC) No 1272/2008 [CLP/GHS]	Self classification	GOST 12.1.007
The product is low-hazard as to the health impact. Is not classified according to CLP/GHS	Combustible liquid, combustion and thermal degradation products have irritating and toxic effects, dangerous to people and environment. May pollute the environment.	The mixture is mid-hazardous as to the health impact.
Classification of the dangerous mixture components		
Product of high boiling byproducts of methyl dioxane synthesis. Mixture of dioxane alcohols, dioxane alcohol ethers and dioxane alcohol formals and ethers. Is not classified according to CLP.	Combustible liquid, combustion and thermal degradation products have irritating and toxic effects, dangerous to people and environment. May pollute the environment.	The mixture is low-hazardous as to the health impact. Hazard class – 3, Maximum allowable concentration (OAE) - 10mg/m ³

The mixture also contains monoethanol amine CAS No. 141-43-5, in amounts max. 0.1%, water impurity.

Human Health effects	
Inhalation	Irritant effect on the mucous membranes of the upper respiratory tract, coughing, throat irritation, change in breathing rhythm. Headache.
Eyes	Irritant effect on the mucous membranes of the eyes
Skin	Causes irritation, redness, dryness
Swallowing	Harmful if swallowed. Agitation followed by apathy, stomach ache, vomiting, impaired coordination.
3. LABELS ELEMENTS	
Product identifier	Brake fluid DOT-4
Hazard components for labelling	
Hazard pictograms	 GHS07
Signal word	Caution
Hazard statements	
Precautionary statements	P260, P270, P264, P 312, P301, P501
Indication(s) of Danger	The substance is moderately dangerous as to the health impact. Flammable liquid, pollutes the environment.
Other hazards	
Assessment PBT/vPvB: According to annex XIII of Regulation (EC) No.1907/2006 (REACH): Not fulfilling PBT (persistent/bioaccumulative/toxic), not fulfilling vPvB (very persistent/ very bioaccumulative) criteria.	

4. FIRST AID MEASURES

4.1 Description of first aid measures	
General information	Subject to the conditions of storage and usage no visible hazards are met. Additional information in Sec.11. Seek medical attention if the effects of the harmful impact do not end or are very acute.
4.2 The most important symptoms and effects, both acute and those manifested later	
In case of inhalation	Help the victim out to fresh air. Make sure that he (she) is warm and not disturbed. Seek medical help.
In case of eye contact	Wash the eye with plenty of water for at least 15 minutes, keeping the eye open. Be careful not to contaminate the other eye. Consult an ophthalmologist.
In case of skin contact	Remove contaminated clothing. Wash skin with soap and water. Seek medical attention if skin becomes red or cracked.
In case of ingestion	Rinse the mouth with water. Do not induce vomiting. If the victim is conscious, rinse mouth and drink from 1 to 1 ½ cups of water to dilute the substance. Do not give water in a sleepy state, if convulsions or unconsciousness. Transport to the nearest medical institution for further assistance. If

	spontaneous vomiting, keep head below hips to prevent aspiration.
Contra-indications	Do not induce vomiting.

5. FIRE FIGHTING MEASURES

5.1 Fire-extinguishing means	
Flammability	The product is combustible.
Suitable fire-extinguishing means	Suitable: alcohol-resistant foam, dry chemical powder, carbon dioxide, water fog.
Unsuitable fire-extinguishing means	Direct water jet
5.2 Special hazards arising from the substance or mixture	
Hazardous combustion products	When heated product can decompose to give off carbon monoxide (CAS 124-38-9).
Special protective equipment for firefighters	Full protective clothing and self-contained breathing apparatus.
Advice for firefighters	Evacuate from the area of the fire everyone, who is not engaged in extinguishing the fire. Do not get close to the storage containers. Containers may explode when heated in the fire seat. Do not direct the water jet at the source of the leakage. Call vapor deposition using a water spray.

6. ACCIDENTAL LEAKAGE MEASURES

6.1. Personal precautions, protective equipment and emergency procedures	
Personal precautions	Avoid contact with spilled product. Isolate hazardous area. Use appropriate protective equipment for respiratory organs, eyes and face. Use gloves made of butyl rubber dispersion. Immediately remove all contaminated clothing. Do not smoke.
Emergency procedures	Be ready for fire. Stop all works with open fire. Stay upwind and avoid low positions. Remove from the area all possible sources of inflammation. In the case of contamination of sewage system with liquid product, inform the appropriate emergency services. Inform local authorities of significant leaks that can not be isolated.
6.2 Environment protection measures	
Provide proper isolation of the area (in relation to the product and the water remaining after fire fighting) to prevent environmental pollution. Do not allow the distribution of the product or its getting into sewers, drains or rivers by using sand, earth or other appropriate barriers. Steam should be dispersed or displaced to the safe place with the help of water vapor scattering (as a way).	
6.3 Methods and materials for containment and cleaning	
In the case of a small leak of liquid product (less than one barrel) collect it mechanically to designated sealed containers for cleaning and safe disposal of the product. Or collect the product with material absorbing substance (sand, sawdust, universal binders or diatomaceous soil). Remains are left for evaporating them or collecting with absorbent material for a safe disposal. Remove contaminated soil and dispose of it safely. In case of considerable leakage of the liquid product (more than 1 barrel) it is necessary to collect it mechanically by means such as a tanker with a pump for further product purification and safe disposal of the wastes. It is forbidden to wash away remains with water. Behave to them as to poisonous waste. Remains are collected with absorbent material for a safe disposal. In case of threat of ground water pollution, call in professionals for neutralization.	

6.4 Reference to other sections
For information regarding exposure controls / personal protection and disposal recommendations, see Sec. 8 and 13.

7. HANDLING AND STORAGE

7.1 Precautions for safe handling of the product	
Precautions for safe handling of the product	Installation of combined input-exhaust and local ventilation systems. Usage in the manufacturing of sealed equipment. Use the product only in well- ventilated areas. Do not breathe vapor or mist. Avoid contact with skin, eyes and clothing. Wash well after handling. On the recommendations for personal protective equipment see Sec. 8 of this SDS. Prevent penetration into soil, sewer system and water bodies.
Fire safety measures	Extinguish any open flames. Do not smoke. Remove all sources of inflammation. Avoid sparks. Store the product at ambient temperature without exposing it to direct sunlight.
Measures to prevent the formation of aerosols and dust	Installation of combined plenum, exhaust and local ventilation system. Usage in the manufacturing of sealed equipment. Use the product only in well- ventilated areas.
Prevent the accumulation of electrostatics	Avoid electrostatic discharge. All equipment and piping shall be fire-explosion proof and securely attached to the grounding circuit.
Safe transportation	See Sec. 14
Tips on common work hygiene	Follow the basic principles of industrial hygiene. Use in accordance with accepted in your industrial sector practice of honest management.
7.2 Conditions for safe storage, indicating incompatibility	
Technical measures and storage conditions	Keep product away from aerosols, combustible materials, oxidizing chemicals, corrosive materials, materials that can form explosive mixtures, spontaneously combustible materials, other flammable products, compressed and liquefied gases. Do not expose the product to direct sunlight.
Packaging materials	Hermetically sealed tanks, containers, rail tank cars and tank trucks, barrels. For containers, use polyethylene or stainless steel. Do not store product in plastic containers or containers made of natural, butyl, polychloroprene or nitrile rubber. Fill the container with considering the volume expansion of the product at the possible temperature difference.
Requirements for storage rooms and vessels	The storage area must be dry and have a combined plenum, exhaust and local ventilation system, and be well ventilated. Protect the product from moisture.
7.3 Specific end use	
Data not available	

8. EXPOSURE CONTROL / PERSONAL PROTECTION

8.1. Control parameters	
Name of substance	Professional exposure limit value

Dioxane alcohol	10 mg/m ³ ;
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8.2 Exposure control	
Occupational exposure control	
Proper technical control	Ensure that the level of concentration of harmful substances is within permitted limits by establishing a combined plenum and exhaust ventilation in areas with the highest pollution. Use sealed equipment and packaging. Air monitoring in work areas is obligatory.
Respiratory protection	In normal working conditions is not necessary. Use filtering protective masks, respirators in emergency conditions.
Eye / Face Protection	Use sufficient and appropriate eye protection. Wear safety glasses with protective elements on the sides. If there is a risk of eye contact with the liquid, use chemical-laboratory glasses.
Skin protection	Chemically resistant gloves made of butyl rubber dispersion, oil-and-petrol resistant gloves. Made of suitable materials that make prolonged and direct contact possible. (Recommended protective index 6. corresponds to >480 minutes of soaking in accordance with EN 374: nitrile rubber (NBR) - coating thickness 0/4 mm.) Time is indicated on the basis of measurements made at 22 ° C with full contact. Increasing the temperature due to the substance and body heat may reduce the effective thickness of the protective layer. 1.5-fold decreasing the thickness of the layer leads to a double reduction of the service time to the destruction of layer. It is always recommended to consult with the manufacturer of the gloves.
General considerations on hygiene	Stick to the basic principles of industrial hygiene.
Monitoring the environment	
Measures to prevent exposure	Follow the measurement of the concentration of pollutants. Eliminate possibility of the product entering the atmosphere. Use sealed equipment, pipelines and storage containers.
Control of exposure on consumers	
Measures related to the use of a mixture by consumers	Wear gloves. The skin should be washed with soap and water before work breaks and after the work. Do not smoke, eat, and avoid inhalation of substance fumes. Use suitable eye protection. Wear glasses with protective elements on the sides. Store the product in a securely sealed container, away from fire sources, in a ventilated area. Protect it from moisture and direct sunlight.

9. PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties	
Appearance	Uniformly clear liquid. Color - from yellow to light brown.
Odor	Faint aromatic odor

pH	7.0 – 11.5
Melting Point / range (°C)	(-40)- (-30)
Initial boiling point / range (°C)	230 °C - for dry liquid up to 248 °C For hydrated liquid - 155°C
Evaporation rate	Low
Flammability	Flammability temperature > 85°C
Upper / lower flammability or explosive limits	Temperature limits of flame propagation - 92°C -127°C.
Steam pressure	Undefined
Relative density	>1,05
Solubility in water (20°C in g/l)	Soluble
Log P octanol/water (log Po/w)	Undefined
Auto-ignition temperature (°C)	Auto-ignition temperature >260°C
Flash point (°C)	>80°C
Viscosity	Kinematic viscosity, mm / s at minus (20±1) °C, more than 1800
Explosive properties	
Oxidizing properties	None

10. STABILITY AND REACTIVITY

10.1 Reactivity	Not corrosive, hygroscopic, susceptible to oxidation.
10.2 Chemical stability	Stable at normal temperature and pressure
10.3 Possibility of reactions with formation of hazardous substances	Substance may react dangerously with strong oxidizing agents, alkali metals and strong mineral acids.
10.4 Conditions to avoid	Heating to a temperature above 50°C.
10.5 Incompatible materials	Oxidizers, acids, alkalis.
10.6 Hazardous decomposition products	Carbonyl compounds

11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects			
Toxicokinetics, metabolism and distribution			
Toxicological data without reference to the human body		The mixture is moderately dangerous as to the health impact .	
Acute toxicity:			
Exposure	Dosage descriptor / Score	Conclusions/comments	
WFP fraction of isoprene synthesis –moderately hazardous substance			
Irritant effect on skin, eyes, percutaneous action - yes			
Acute toxicity	Orally	LD50:> 5000 mg/kg	Mice
Acute toxicity	Through the skin	LD50: >2500 mg/kg	Rabbits
		CL 50 no data available	
Sensitization of the airways or skin		WFP fraction of isoprene synthesis: not studied	
Embryos mutagenicity		WFP fraction of isoprene synthesis: not studied	
Carcinogenicity		WFP fraction of isoprene synthesis: not studied	
Toxicity to the reproductive function		WFP fraction of isoprene synthesis: not studied	

STOT-repeated exposure	Repeated oral exposure in large amounts may cause a malfunction of the internal organs.
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12. ECOLOGICAL INFORMATION

12.1 Ecotoxicity:	
Aquatic toxicity (WFP fraction of isoprene synthesis): no data available	
12.2 Migration and decomposition in the environment	
Transforms.	
12.3 Results of PBT and vPvB	
Does not meet the criteria for PBT, does not meet the criteria for vPvB	

13. DISPOSAL INFORMATION

13.1. Methods of waste treatment	
Proper disposal / Product	In accordance with local and national laws and regulations material should be delivered to the special recycling areas for waste storage or to special waste incinerators.
Proper disposal / Packaging	Packaging can be sent for processing after a thorough cleaning.

14. TRANSPORTING INFORMATION

14.1 UN number	3082
14.2 UN proper shipping name	Brake fluid of class DOT-4. Liquid substance hazardous for environment. Class 9, packaging group III

15. REGULATORY DOCUMENTS INFORMATION

15.1 Rules/legislation for safety, health and the environment applicable to mixture	
EU legislation	
Directive 1999/45/EU PRESCRIPTION (EU) No.1907/2006, PRESCRIPTION (EU) No.1272/2008, (EU) No.453/2010	
Legislation of Ukraine	
National State Standard (NSS) 12.1.005-88	Occupational safety standards system (OSSS). General hygiene requirements to the working area.
NSS 12.1.007-76	OSSS. Harmful substances. Classification and general safety requirements.
Ukrainian national standardization system (UNSS) 4500-3:2008	Dangerous goods. Classification
UNSS 4500-5:2005	Dangerous goods. Marking
UNSS NSS 30333:2009	Passport of the safety of chemicals
UNSS NSS 31340:2009	Warning labeling of chemicals

16. OTHER INFORMATION

Relevant phrases R, H, EUH	In accordance with (EU) No.1272/2008 (CLP): GHS07,
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	<p>Signal word: Warning!</p> <p>P260: Do not breathe vapors,</p> <p>P264: Carefully wash yourself with plenty of water and soap after handling,</p> <p>P270: Do not eat, drink or smoke when using the product</p> <p>P301 + P312: IF SWALLOWED: Consult a poison center or doctor/health care professional if you feel unwell,</p> <p>P501: Send contents/container to a collection point for hazardous or special waste.</p>
Notes on training	Carefully read the manual for your product and this SDS.
Other information	The information contained in this SDS is based on current knowledge and experience and describes the product only with regard to the safety of the product. The product must not be used for purposes other than those specified in section 1. The consumer is solely responsible for compliance with all applicable local laws and regulations. This information is not a guarantee of product quality. Present SDS must be replaced with a new one if any changes will be made in the composition of the product.
Links to key literature and data sources	Sources: ПИБ №05766801.24.30898