

SAFETY DATA SHEET**EFOX 60 S30**

COMMISSION REGULATION (EU) 2015/830 of 28 May 2015.

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

Product name EFOX 60 S30
Chemical name Tert-Butyl 3,5,5-Trimethylperoxyhexanoate %30

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

Identified uses Industrial use
Uses advised against No specific uses advised against are identified.

1.3. Details of the supplier of the safety data sheet

Supplier AKPA KİMYA AMBALAJ SANAYİ VE TİCARET ANONİM ŞİRKETİ
Yenibosna Merkez Mah. Ladin Sok.
No:36/70 Kat:12 34197 Townofis Bahçelievler, İstanbul, TÜRKİYE
Web: www.akpakimya.com
PHONE: +90 212 580 55 59
FAX: +90 212 580 55 21
E-mail: info@akpakimya.com

Contact person Export Department - export@akpakimya.com

1.4. Emergency telephone number

Emergency telephone AKPA Kimya : +90 549 558 4040

SECTION 2: Hazards identification**2.1. Classification of the substance or mixture****Classification (EC 1272/2008)**

Physical hazards Flam. Liq. 3 - H226; Org. Perox. F - H242
Health hazards Skin Sens. 1 - H317; Asp. Tox. 1 - H304
Environmental hazards Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410

2.2. Label elements**Pictogram**

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Signal Word	Danger	
Hazard statements	H226	Flammable liquid and vapour.
	H242	Heating may cause a fire.
	H304	May be fatal if swallowed and enters airways.
	H317	May cause an allergic skin reaction.
	H410	Very toxic to aquatic life with long lasting effects.
Precautionary statements	P210	Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
	P220	Keep away from acids, alkalis, heavy metal compounds, oxidising material, combustible materials.
	P273	Avoid release to the environment.
	P280	Wear protective gloves/protective clothing/eye protection/face protection.
	P301+P310	IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
	P302+P352	IF ON SKIN: Wash with plenty of soap and water.
	P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
	P411+235	Store at temperatures between (-20) - (+25)°C. Keep cool.
	P501	Dispose of contents/container in accordance with national regulations.
Contain	tert-butyl 3,5,5-trimethylperoxyhexanoate, Hydrocarbons, C4, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated	

2.3. Other hazards

This substance is not classified as PBT or vPvB according to current EU criteria.

SECTION 3: Composition/information on ingredients

3.2. Mixtures

tert-butyl 3,5,5-trimethylperoxyhexanoate		%25-40	
REACH Reg. No: 01-2119498308-25-0005			
CAS Number	13122-18-4	EC Number	236-050-7
Classification			
Org. Perox. D	H242		
Skin Sens. 1	H317		
Aquatic Acute 1	H400		
Aquatic Chronic 1	H410		

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HYDROCARBONS, C4, 1,3-BUTADIENE-FREE, POLYMD., TRIISOBUTYLENE FRACTION, HYDROGENATED %60-80
REACH Reg. No: 01-2119490725-29-0000

CAS Number	93685-81-5	EC Number	297-629-8
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Classification

Flam. Liq. 3 H226

Asp. Tok. 1 H304

Aquatic Chronic 4 H413

EUH066

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

Composition Comments

The data shown are in accordance with the latest EC Directives.

SECTION 4: First aid measures

4.1. Description of first aid measures

General information	Remove affected person from source of contamination. Get medical attention if any discomfort continues.
Inhalation	Move injured person into fresh air and keep person calm under observation. If uncomfortable: Seek hospital and bring these instructions. NEVER MAKE AN UNCONSCIOUS PERSON VOMIT OR DRINK FLUIDS! When breathing is difficult, properly trained personnel may assist affected person by administering oxygen. Get medical attention.
Ingestion	Immediately rinse mouth and drink plenty of water. DO NOT induce vomiting. If vomiting occurs, the head should be kept low so that stomach vomit doesn't enter the lungs. Get medical attention immediately!
Skin contact	Remove victim immediately from source of exposure. Immediately remove contaminated clothing. Wash skin thoroughly with soap and water. Get medical attention promptly if symptoms occur after washing.
Eye contact	Make sure to remove any contact lenses from the eyes before rinsing. Promptly wash eyes with plenty of water while lifting the eye lids. Get medical attention promptly if symptoms occur after washing.
Protection of first aiders	First aid personnel should wear appropriate protective equipment during any rescue. Wash contaminated clothing thoroughly with water before removing it from the affected person, or wear gloves. It may be dangerous for first aid personnel to carry out mouth-to-mouth resuscitation.

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

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General information	See Section 11 for additional information on health hazards. The severity of the symptoms described will vary dependent on the concentration and the length of exposure.
Inhalation	Vapours may cause drowsiness and dizziness.
Ingestion	Congestion of the lungs may occur producing severe shortness of breath. May cause stomach pain or vomiting.
Skin contact	Mild dermatitis, allergic skin rash.
Eye contact	May cause blurred vision and serious eye damage.
4.3. Indication of any immediate medical attention and special treatment needed	
Notes for the doctor	Treat symptomatically. May cause sensitization or allergic reactions in sensitive individuals.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable extinguishing media Extinguish with alcohol-resistant foam, carbon dioxide or dry powder.

Unsuitable extinguishing Media Halon. Direct water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards In case of fire, toxic gases may be formed. Vapours may form explosive air mixtures even at room temperature. Containers can burst violently when heated, due to excess pressure build-up

Hazardous decomposition products

Fire causes formation of toxic gases. Forms explosive mixtures with air. May explode when heated or when exposed to flames or sparks.

5.3. Advice for firefighters

Protective actions during firefighting Self-contained breathing apparatus and full protective clothing must be worn in case of fire. Face mask, protective gloves and safety helmet.

Special protective equipment for firefighters Use pressurised air mask if product is involved in a fire. Cool containers exposed to flames with water until well after the fire is out. If possible, fight fire from protected

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position. Move container from fire area if it can be done without risk. Avoid water in straight hose stream; will scatter and spread fire. Keep run-off water out of sewers and water sources. Dike for water control. If risk of water pollution occurs, notify appropriate authorities.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Personal precautions Wear protective clothing as described in Section 8 of this safety data sheet. Do not smoke, use open fire or other sources of ignition. Avoid inhalation of vapours and contact with skin and eyes. Provide adequate ventilation.

6.2. Environmental precautions

Environmental precautions Do not discharge into drains, water courses or onto the ground. Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate regulatory body.

6.3. Methods and material for containment and cleaning up

Methods for cleaning up Keep combustibles away from spilled material. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Dike far ahead of larger spills for later disposal. Absorb in vermiculite, dry sand or earth and place into containers. Wash thoroughly after dealing with a spillage.

6.4. Reference to other sections

Reference to the other sections For personal protection, see Section 8. See Section 11 for additional information on health hazards. See Section 12 for additional information on ecological hazards. For waste disposal, see Section 13.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Usage precautions Keep away from heat, sparks and open flame. Avoid inhalation of vapours/spray and contact with skin and eyes. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not handle broken packages without protective equipment.

Advice on general occupational hygiene

Eye wash facilities and emergency shower must be available when handling this product. Good personal hygiene is necessary. Wash hands and contaminated areas with water and soap before leaving the work site. Do not eat, drink or smoke when using the product. Observe good chemical hygiene practices. Mechanical

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ventilation or local exhaust ventilation may be required. Container must be kept tightly closed. Protect against direct sunlight.

7.2. Conditions for safe storage, including any incompatibilities

Storage precautions

Keep away from oxidisers, heat and flames. Store in tightly closed original container in a dry, cool and well-ventilated place. Avoid contact with oxidising agents. Store away from: Acids. Alkalis. Heavy metal compounds. Oxidising material - Keep away from flammable and combustible materials. Store in closed original container at temperatures not exceeding +10°C. Provide an adequate ventilation system.

7.3. Specific end use(s)

Specific end use(s)

The identified uses for this product are detailed in Section 1.2.

SECTION 8: Exposure Controls/personal protection

8.1. Control parameters

Occupational exposure limits

No exposure limits noted for ingredient(s).

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
tert-butyl 3,5,5-trimethylperoxyhexanoate	Workers	Inhalation	Long-term systemic effects	5.6 mg/m ³
	Workers	Skin contact	Long-term systemic effects	3.2 mg/kg

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
tert-butyl 3,5,5-trimethylperoxyhexanoate	Fresh water	0.00051 mg/l
	Marine water	0.000051 mg/l
	Intermittent use/release	0.0051 mg/l
	Sewage treatment plant	2.6 mg/l
	Fresh water sediment	0.101 mg/kg
	Marine sediment	0.0101 mg/kg
	Soil	0.0199 mg/l

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8.2. Exposure controls

Protective equipment



Appropriate engineering controls

Provide adequate ventilation, including appropriate local extraction, to ensure that the defined occupational exposure limit is not exceeded. All handling to take place in well-ventilated area.

Eye/face protection

Eyewear complying with an approved standard should be worn if a risk assessment indicates eye contact is possible. Personal protective equipment for eye and face protection should comply with European Standard EN166. Wear tight-fitting, chemical splash goggles or face shield. If inhalation hazards exist, a full-face respirator may be required instead.

Hand protection

Chemical-resistant, impervious gloves complying with an approved standard should be worn if a risk assessment indicates skin contact is possible. The most suitable glove should be chosen in consultation with the glove supplier/manufacturer, who can provide information about the breakthrough time of the glove material. To protect hands from chemicals, gloves should comply with European Standard EN374. Considering the data specified by the glove manufacturer, check during use that the gloves are retaining their protective properties and change them as soon as any deterioration is detected. Frequent changes are recommended.

Other skin and body protection

Appropriate footwear and additional protective clothing complying with an approved standard should be worn if a risk assessment indicates skin contamination is possible.

Hygiene measures

DO NOT SMOKE IN WORK AREA! Wash hands at the end of each work shift and before eating, smoking and using the toilet. Promptly remove any clothing that becomes contaminated. Isolate contaminated clothing and wash before reuse. Remove contaminated clothing and wash the skin thoroughly with soap and water after work. Wash promptly with soap & water if skin becomes contaminated.

Respiratory protection

Respiratory protection complying with an approved standard should be worn if a risk assessment indicates inhalation of contaminants is possible. Wear suitable mask. Ensure all respiratory protective equipment is suitable for its intended use and is 'CE'-marked. Check that the respirator fits tightly and the filter is changed regularly. Gas and combination filter cartridges should comply with European Standard EN14 387 and EN143. Full face mask respirators with replaceable filter

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cartridges should comply with European Standard EN136. Half mask and quarter mask respirators with replaceable filter cartridges should comply with European Standard EN140.

Environmental exposure controls Residues and empty containers should be taken care of as hazardous waste according to local and national provisions.

SECTION 9: Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

Appearance	Clear Liquid
Colour	Colorless
Odour	Characteristic
Melting point	Not available
Flash point	No data available.
Bulk density	Not available.
Density	0,795 ± 0,005 gr/cm ³ (20°C)
Solubility(ies)	Partially soluble in water.
Viscosity	No data available.

9.2. Other information

Active Oxygen Content	2,02-2,16 %
SADT	55°C

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity There are no known reactivity hazards associated with this product.

10.2. Chemical stability

Stability Stable under normal temperature conditions.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Will not polymerise.

10.4. Conditions to avoid

Conditions to avoid Avoid excessive heat for prolonged periods of time. Keep away from heat, sparks, open flames or hot surfaces. – No smoking.

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10.5. Incompatible materials

Materials to avoid Strong acids. Strong reducing agents. Bases, alkalis (organic). Organic peroxides/hydroperoxides.

10.6. Hazardous decomposition products

Hazardous decomposition Products During fire, toxic gases (CO, CO₂) are formed.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

Toxicological information

tert-butyl 3,5,5-trimethylperoxyhexanoate

Acute oral toxicity	LD50: 12,905 mg/kg	Species: Rat
Acute dermal toxicity	LD50: >2,500 mg/kg	Species: Rat
Acute inhalation toxicity	LC50 (Rat): >0.8 mg/l	Exposure time: 4h

Hydrocarbons, C₄, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated

Acute oral toxicity	LD50: >5,000 mg/kg	Species: Rat
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Serious eye damage/irritation:

Not available.

Respiratory or skin sensitisation:

Skin sensitisation

May cause an allergic skin reaction.

Germ cell mutagenicity:

Genotoxicity - In Vitro - In Vivo

Not available.

Carcinogenicity:

Not available.

Reproductive Toxicity:

Not available.

Reproductive Toxicity – Development

Not available.

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Specific target organ toxicity - single exposure:

STOT - Single exposure
No information required.

Specific target organ toxicity - repeated exposure:

STOT - Repeated exposure
No information required.

Aspiration Hazard

May be fatal if swallowed and enters airways.

Inhalation

May cause damage to mucous membranes in nose, throat, lungs and bronchial system.

Ingestion

May cause chemical burns in mouth, oesophagus and stomach. Harmful: may cause lung damage if swallowed.

Skin contact

May cause skin irritation. May cause sensitisation by skin contact.

Eye contact

May cause temporary eye irritation.

SECTION 12: Ecological Information

12.1. Toxicity

Toxicity Very toxic to aquatic life with long lasting effects.

tert-butyl 3,5,5-trimethylperoxyhexanoate

Toxicity to fish LC₅₀, 96h (Oncorhynchus mykiss (rainbow trout)): 7.0 mg/l

Toxicity to daphnia and other aquatic invertebrates EC₅₀, 48h (Daphnia magna (Water flea)): >0.52 mg/l

Toxicity to algae EC₅₀, 72h (Pseudokirchneriella subcapitata (green algae)): 0.33 mg/l

Toxicity to microorganisms EC₅₀, 3h (Bacteria): 327.02 mg/l

Hydrocarbons, C4, 1,3-butadiene-free, polymd., triisobutylene fraction, hydrogenated

EC50 / 48h >0.04 mg/l (daphnia magna)

IC50 / 72h >0.04 mg/l (alga)

12.2. Persistence and degradability

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Persistence and degradability	There are no data on the degradability of this product.
12.3. Bio accumulative potential	
Bio accumulative potential	No data available on bioaccumulation.
12.4. Mobility in soil	
Mobility	The product is partly miscible with water and may spread in the aquatic environment.
12.5. Results of PBT and vPvB assessment	
Results of PBT and vPvB assessment	This product does not contain any substances classified as PBT or vPvB.
12.6. Other adverse effects	
Other adverse effects	Not known.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

General Information	Waste to be treated as controlled waste. Disposal to licensed waste disposal site in accordance with local Waste Disposal Authority. When handling waste, consideration should be made to the safety precautions applying to handling of the product .
Disposal methods	Dispose of waste and residues in accordance with local authority requirements. Make sure containers are empty before discarding (explosion risk). Environmental manager must be informed of all major spillages.

SECTION 14: Transport information

General Information	For limited quantity packaging/limited load information, consult the relevant modal documentation using the data shown in this section.
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14.1. UN number

UN No. (ADR/RID)	3109
UN No. (IMDG)	3109
UN No. (ICAO)	3109
UN No. (ADN)	3109

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14.2. UN proper shipping name

Proper Shipping name (ADR/RID)	ORGANIC PEROXIDE TYPE F, LIQUID (tert-butyl 3,5,5-trimethylperoxyhexanoate)
Proper Shipping name (IMDG)	ORGANIC PEROXIDE TYPE F, LIQUID (tert-butyl 3,5,5-trimethylperoxyhexanoate)
Proper Shipping name (ICAO)	ORGANIC PEROXIDE TYPE F, LIQUID (tert-butyl 3,5,5-trimethylperoxyhexanoate)
Proper Shipping name (ADN)	ORGANIC PEROXIDE TYPE F, LIQUID (tert-butyl 3,5,5-trimethylperoxyhexanoate)

14.3. Transport hazard class(es)

ADR/RID class	5.2
ADR/RID label	5.2
IMDG class	5.2
ICAO class/division	5.2
ADN class	5.2

Transport labels



14.4. Packing group

Not applicable.

14.5. Environmental hazards

Environmentally hazardous substance/marine pollutant



14.6. Special precautions for user

Always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

EMS	F-J, S-R
Emergency Action Code	2W

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Hazard No. (ADR) 539
Tunnel Restriction Code (D)

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

Transport in bulk according to Annex II of MARPOL No data available.

SECTION 15: Regulatory information

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

National regulations Health and Safety at Work etc. Act 1974 (as amended).
 The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (SI 2009 No. 716).
 The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations 2009 (SI 2009 No. 1348) (as amended) ["CDG 2009"].
 EH40/2005 Workplace exposure limits.

EU legislation Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) (as amended).
 Regulation (EC) No 1272/2008 of the European Parliament and of the Council of 16 December 2008 on classification, labelling and packaging of substances and mixtures (as amended).

15.2. Chemical safety assessment

No chemical safety assessment has been carried out.

SECTION 16: Other information

Key literature references and sources for data This SDS is prepared based on the information received from the product owner.

Classification procedures according to Regulation (EC) 1272/2008 Skin Sens. 1 - H317; Asp. Tox. 1 - H304; Aquatic Acute 1 - H400; Aquatic Chronic 1 - H410; Calculation Method. Flam. Liq. 3 - H226; Org. Perox. F - H242: Expert Judgement

Training advice Read and follow manufacturer's recommendations. Only trained personnel should use this material.

Revision comments Added REACH Number.

AKPAORGANIC PEROXIDES, INITIATORS
PAINT DRIERS**SAFETY DATA SHEET****EFOX 60 S30**

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Revised by	Simge ARIK - lab@akpakimya.com +90 282 361 80 99
Revision date	04.04.2018
Revision	1.0
Hazard statements in full	H226 Flammable liquid and vapour. H242 Heating may cause a fire. H304 May be fatal if swallowed and enters airways. H317 May cause an allergic skin reaction. H400 Very toxic to aquatic life. H410 Very toxic to aquatic life with long lasting effects.

This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty, guarantee or representation is made to its accuracy, reliability or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.