

SAFETY DATA SHEET

(in accordance with Regulation (EC) No 1907/2006)



ACTITHIN TFS

Version: 1
Revision date: 16/07/2014

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

1.1 Product identifier.

Product Name: ACTITHIN TFS

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

Not recommended for domestic use

1.3 Details of the supplier of the safety data sheet.

Company: **A. Algeo Ltd.**
Address: Sheridan House, Bridge Industrial Estate, Speke Hall Road,
Liverpool L24 9HB

Telephone: +44 (0)151 448 1228
Fax: +44 (0)151 448 1008
E-mail: sales@algeos.com

1.4 Emergency telephone number: +44 (0)151 448 1228 (Only available during office hours)

SECTION 2: HAZARDS IDENTIFICATION.

2.1 Classification of the mixture.

In accordance with Directive 1999/45/EC: F Xn N

Highly flammable.

Harmful: may cause lung damage if swallowed.

Repeated exposure may cause skin dryness or cracking.

Vapours may cause drowsiness and dizziness.

Irritating to eyes and skin.

Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

In accordance with Regulation (EU) No 1272/2008:

Aquatic Chronic 2 : Toxic to aquatic life with long lasting effects.

Asp. Tox. 1 : May be fatal if swallowed and enters airways.

Eye Irrit. 2 : Causes serious eye irritation.

Flam. Liq. 2 : Highly flammable liquid and vapour.

Skin Irrit. 2 : Causes skin irritation.

STOT SE 3 : May cause drowsiness or dizziness.

2.2 Label elements.

Labelling in accordance with Regulation (EU) No 1272/2008:

Pictograms:



Signal Word:

Danger

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H statements:

H225 Highly flammable liquid and vapour.
H304 May be fatal if swallowed and enters airways.
H315 Causes skin irritation.
H319 Causes serious eye irritation.
H336 May cause drowsiness or dizziness.
H411 Toxic to aquatic life with long lasting effects.

P statements:

P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking.
P271 Use only outdoors or in a well-ventilated area.
P273 Avoid release to the environment.
P301+P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
P370+P378 In case of fire: Use ... for extinction.
P403+P235 Store in a well-ventilated place. Keep cool.
P303+P361+P353 IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

EUH statements:

EUH066 Repeated exposure may cause skin dryness or cracking.

Contains:

cyclohexane
n-hexane
butanone,ethyl methyl ketone

2.3 Other hazards.

In normal use conditions and in its original form, the product itself does not involve any other risk for health and the environment.

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS.

3.1 Mixtures.

Substances presenting a health or environmental hazard within the meaning of the Dangerous Substances Directive 67/548/EEC or Regulation (EC) No. 1272/2008, assigned a Community workplace exposure limit, classified as PBT/vPvB or included in the Candidate List:

| Identifiers | Name | Concentrate | (*)Classification Regulation (EC) No 1272/2008 | (*)Classification Directive 67/548/CEE |
|--|-------------------|--------------|---|--|
| Index No: CAS NO:96-37-7 N. CE: Registration No:N/D | METILCICLOPENTANO | 2.5 - 9.99 % | | F Xi Xn R11 R36/37/38 R22 R65 |
| Index No:601-017-00-1 CAS NO:110-82-7 N. CE:203-806-2 Registration No:01-2119463273-41-XXXX | (**) cyclohexane | 10 - 19.99 % | Aquatic Acute 1, H400 - Aquatic Chronic 1, H410 - Asp. Tox. 1, H304 - Flam. Liq. 2, H225 - Skin Irrit. 2, H315 - STOT SE 3, H336 | F Xn Xi N R11 R65 R38 R67 R50/53 |

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| | | | | |
|---|-----------------------------------|--------------|--|--|
| Index No:601-037-00-0 CAS NO:110-54-3 N. CE:203-777-6 Registration No:N/D | (**) n-hexane | 0 - 2.49 % | Aquatic Chronic 2, H411 - Asp. Tox. 1, H304 - Flam. Liq. 2, H225 - Repr. 2, H361f *** - Skin Irrit. 2, H315 - STOT RE 2 *, H373 ** - STOT SE 3, H336 | F Xn Xi N R11 R62 R65 R48/20 R38 R67 R51/53 |
| Index No:606-002-00-3 CAS NO:78-93-3 N. CE:201-159-0 Registration No:01-2119457290-43-XXXX | (**) butanone,ethyl methyl ketone | 20 - 99.99 % | Eye Irrit. 2, H319 - Flam. Liq. 2, H225 - STOT SE 3, H336 | F Xi R11 R36 R66 R67 |

(*) The complete text of the R and H phrases is given in section 16 of this Safety Data Sheet.

(**) Substance with a Community workplace exposure limit (see section 8.1).

*, **, *** See Regulation (EC) No. 1272/2008, Annex VI, section 1.2.

4. FIRST AID MEASURES.

4.1 Description of first aid measures.

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

Inhalation.

Take the victim into open air; keep them warm and calm. If breathing is irregular or stops, perform artificial respiration. Do not administer anything orally. If unconscious, place them in a suitable position and seek medical assistance.

Eye contact.

If wearing contact lenses, remove them. Wash eyes with plenty of clean and cool water for at least 10 minutes while pulling eyelids up, and seek medical assistance.

Skin contact.

Remove contaminated clothing. Wash skin vigorously with water and soap or a suitable skin cleaner. **NEVER** use solvents or thinners.

Ingestion.

If accidentally ingested, seek immediate medical attention. Keep calm. **NEVER** induce vomiting.

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

Harmful Product, prolonged exposure due to inhalation may cause anaesthetic effects and the need for immediate medical assistance.No known acute or delayed effects from exposure to the product.

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

In case of doubt or when symptoms of feeling unwell persist, get medical attention. Never administer anything orally to persons who are unconscious.

SECTION 5: FIREFIGHTING MEASURES.

The product is Highly inflammable, it can cause or considerably worsen a fire, the necessary prevention measures should be taken and risks avoided. In case of fire, the following measures are recommended:

5.1 Extinguishing media.

Recommended extinguishing methods.

Extinguisher powder or CO₂. In case of more serious fires, also alcohol-resistant foam and water spray. Do not use a direct stream of water to extinguish.

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5.2 Special hazards arising from the mixture.

Special risks.

Fire can cause thick, black smoke. As a result of thermal decomposition, dangerous products can form: carbon monoxide, carbon dioxide. Exposure to combustion or decomposition products can be harmful to your health.

5.3 Advice for firefighters.

Use water to cool tanks, cisterns, or containers close to the heat source or fire. Take wind direction into account. Prevent the products used to fight the fire from going into drains, sewers, or waterways.

Fire protection equipment.

According to the size of the fire, it may be necessary to use protective suits against the heat, individual breathing equipment, gloves, protective goggles or facemasks, and gloves.

SECTION 6: ACCIDENTAL RELEASE MEASURES.

6.1 Personal precautions, protective equipment and emergency procedures.

Eliminate possible ignition points and ventilate the area. Avoid breathing fumes. For exposure control and individual protection measures, see section 8.

6.2 Environmental precautions.

Product Dangerous for the environment, in case of large spills or if the product contaminates lakes, rivers, or sewers, inform the responsible authorities according to local legislation. Prevent the contamination of drains, surface or subterranean waters, and the ground.

6.3 Methods and material for containment and cleaning up.

Pick up the spill with non-combustible absorbent materials (soil, sand, vermiculite, diatomite, etc.). Pour the product and the absorbent in an appropriate container. The contaminated area should be immediately cleaned with an appropriate de-contaminator. Pour the decontaminator on the remains in an opened container and let it act various days until no further reaction is produced.

6.4 Reference to other sections.

For exposure control and individual protection measures, see section 8.
For later elimination of waste, follow the recommendations under section 13.

SECTION 7: HANDLING AND STORAGE.

7.1 Precautions for safe handling.

The fumes are heavier than air and can spread across the ground. They can form explosive mixtures with air. Prevent the creation of flammable or explosive fume concentrations in the air; prevent fume concentrations above work exposure limits. The product must only be used in areas where all unprotected flames and other ignition points have been eliminated. Electrical equipment has to be protected according to applicable standards.

The product can be electrostatically charged: always use earth grounds when transferring the product. Operators must use anti-static footwear and clothing, and floors must be conductors.

Keep the container tightly closed and isolated from heat sources, sparks, and fire. Do not use tools that can cause sparks. For personal protection, see section 8. Never use pressure to empty the containers. They are not pressure-resistant containers.

In the application area, smoking, eating, and drinking must be prohibited.

Follow legislation on occupational health and safety.

Keep the product in containers made of a material identical to the original.

7.2 Conditions for safe storage, including any incompatibilities.

Store according to local legislation. Observe indications on the label. Store the containers between 5 and 35° C, in a dry and well-ventilated place, far from sources of heat and direct solar light. Keep far away from ignition points. Keep away from oxidising agents and from highly acidic or alkaline materials. Do not smoke. Prevent the entry of non-authorized persons. Once the containers are open, they must be carefully closed and placed vertically to prevent spills.

7.3 Specific end use(s).

See technical data sheet

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SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION.

8.1 Control parameters.

Work exposure limit for:

| Name | VLA-ED * | | VLA-EC * | |
|------------------------------|----------|-------------------|----------|-------------------|
| | ppm | mg/m ³ | ppm | mg/m ³ |
| cyclohexane | 200 | 700 | | |
| n-hexane | 20 | 72 | | |
| butanone,ethyl methyl ketone | 200 | 600 | 300 | 900 |

* According to the list of Limit Environmental Professional Exposure Values adopted by the National Institute for Safety and Hygiene at Work for the year 2012.

8.2 Exposure controls.

Measures of a technical nature:

Provide adequate ventilation, which can be achieved by using good local exhaust-ventilation and a good general exhaust system.

Breathing protection:

If the recommended technical measures are observed, no individual protection equipment is necessary.

Hand protection:

If the product is handled correctly, no individual protection equipment is necessary.

Eye protection:

If the product is handled correctly, no individual protection equipment is necessary.

Skin protection:

If the product is handled correctly, no individual protection equipment is necessary.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES.

9.1 Information on basic physical and chemical properties.

Appearance: Transparent liquid with characteristic odour

Odour: N.A./N.A.

Odour threshold: N.A./N.A.

pH: N.A./N.A.

Melting point: N.A./N.A.

Boiling Point: 80 °C

Flash point: -12 °C

Evaporation velocity: N.A./N.A.

Inflammability (solid, gas): N.A./N.A.

Lower Explosive Limit: 1.2

Upper Explosive Limit: 11.5

Vapour pressure: 93,286

Vapour density: 3.04

Relative density: 0,801 gr/cm³

Solubility: N.A./N.A.

Liposolubility: N.A./N.A.

Hydrosolubility: N.A./N.A.

Partition coefficient (n-octanol/water): N.A./N.A.

Auto-ignition temperature: 514°C

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Decomposition temperature: N.A./N.A.
Viscosity: N.A./N.A.
Explosive properties: N.A./N.A.
Oxidizing properties: N.A./N.A.
N.A./N.A.= Not Available/Not Applicable due to the nature of the product

9.2. Other information.

VOC content (p/p): 93,824 %
VOC content: **758,467** g/l

SECTION 10: STABILITY AND REACTIVITY.

10.1 Reactivity.

The product does not present hazards by their reactivity.

10.2 Chemical stability.

Stable under the recommended handling and storage conditions (see section 7).

10.3 Possibility of hazardous reactions.

The product does not present possibility of hazardous reactions.

10.4 Conditions to avoid.

Avoid temperatures near or above the flash point. Do not heat closed containers.
Avoid direct sunlight and heat, as these may cause a risk of fire.

10.5 Incompatible materials.

Keep away from oxidising agents and from highly alkaline or acidic materials in order to prevent exothermic reactions.

10.6 Hazardous decomposition products.

In case of fire, dangerous decomposition products can be generated, such as carbon monoxide and dioxide and nitrogen fumes and oxides.

SECTION 11: TOXICOLOGICAL INFORMATION.

11.1 Information on toxicological effects.

There are no tested data available on the product.
Repeated or prolonged contact with the product can cause the elimination of oil from the skin, giving rise to non-allergic contact dermatitis and absorption of the product through the skin.
Splatters in the eyes can cause irritation and reversible damage.
No information is available regarding the toxicity of the substances present.

SECTION 12: ECOLOGICAL INFORMATION.

12.1 Toxicity.

No information is available regarding the ecotoxicity of the substances present.

12.2 Persistence and degradability.

No information is available about persistence and degradability of the product.

12.3 Bioaccumulative potential.

Information about the bioaccumulation of the substances present.

| Name | Bioaccumulation | | | |
|---|-----------------|-----|-------|-----------|
| | Log Pow | BCF | NOECs | Level |
| butanone,ethyl methyl ketone N. CAS: 78-93-3 N. CE: 201-159-0 | 0,29 | | | Very High |

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12.4 Mobility in soil.

No information is available about the mobility in soil.
The product must not be allowed to go into sewers or waterways.
Prevent penetration into the ground.

12.5 Results of PBT and vPvB assessment.

No information is available about the results of PBT and vPvB assessment of the product.

12.6 Other adverse effects.

No information is available about other adverse effects for the environment.

SECTION 13 DISPOSAL CONSIDERATIONS.

13.1 Waste treatment methods.

Do not dump into sewers or waterways. Waste and empty containers must be handled and eliminated according to current, local/national legislation.
Follow the provisions of Directive 2008/98/EC regarding waste management.

SECTION 14: TRANSPORT INFORMATION.

Transport following ADR rules for road transport, RID rules for railway, ADN for inner waterways, IMDG for sea, and ICAO/IATA for air transport.

Land: Transport by road: ADR, Transport by rail: RID.

Transport documentation: Consignment note and written instructions

Sea: Transport by ship: IMDG.

Transport documentation: Bill of lading

Air: Transport by plane: ICAO/IATA.

Transport document: Airway bill.

14.1 UN number.

UN No: UN1993

14.2 UN proper shipping name.

Description: UN 1993 FLAMMABLE LIQUID, N.O.S. (CONTAINS BUTANONE, ETHYL METHYL KETONE / CYCLOHEXANE), 3, PG II, (D/E), ENVIRONMENTALLY HAZARDOUS

14.3 Transport hazard class(es).

Class(es): 3

14.4 Packing group.

Packing group: II

14.5 Environmental hazards.

Marine pollutant: Yes



Dangerous for the environment

14.6 Special precautions for user.

Labels: 3

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Hazard number: 33
ADR LQ: 1 L

Transport by ship, FEm – Emergency sheets (F – Fire, S - Spills): F-E,S-E
Proceed in accordance with point 6.

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code.
The product is not transported in bulk.

SECTION 15: REGULATORY INFORMATION.

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

The product is not affected by the Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer.
See annex I of the Directive 96/82/EC of 9 December 1996 on the control of major-accident hazards involving dangerous substances and the Regulation (EC) No 689/2008 of the European Parliament and of the Council of 17 June 2008 concerning the export and import of dangerous chemicals and its subsequent updates.

15.2 Chemical safety assessment.

There has been no evaluation a chemical safety assessment of the product.

SECTION 16: OTHER INFORMATION.

Complete text of the R phrases that appear in section 3:

| | |
|-----------|--|
| R11 | Highly flammable. |
| R22 | Harmful if swallowed. |
| R36 | Irritating to eyes. |
| R38 | Irritating to skin. |
| R62 | Possible risk of impaired fertility. |
| R65 | Harmful: may cause lung damage if swallowed. |
| R66 | Repeated exposure may cause skin dryness or cracking. |
| R67 | Vapours may cause drowsiness and dizziness. |
| R36/37/38 | Irritating to eyes, respiratory system and skin. |
| R48/20 | Harmful: danger of serious damage to health by prolonged exposure through inhalation. |
| R50/53 | Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| R51/53 | Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |

Complete text of the H phrases that appear in section 3:

| | |
|-------|--|
| H225 | Highly flammable liquid and vapour. |
| H304 | May be fatal if swallowed and enters airways. |
| H315 | Causes skin irritation. |
| H319 | Causes serious eye irritation. |
| H336 | May cause drowsiness or dizziness. |
| H361f | Suspected of damaging fertility. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |

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It is advisable to carry out basic training with regard to health and safety at work in order to handle this product correctly.

Labelling in accordance with Directive 1999/45/EC:

Symbols:



R Phrases:

R11 Highly flammable.
R65 Harmful: may cause lung damage if swallowed.
R66 Repeated exposure may cause skin dryness or cracking.
R67 Vapours may cause drowsiness and dizziness.
R36/38 Irritating to eyes and skin.
R51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S Phrases:

S16 Keep away from sources of ignition - No smoking.
S24 Avoid contact with skin.
S40 To clean the floor and all objects contaminated by this material, use ... (to be specified by the manufacturer).
S51 Use only in well-ventilated areas.
S57 Use appropriate container to avoid environmental contamination.
S61 Avoid release to the environment. Refer to special instructions/safety data sheets.
S62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

Contains:
cyclohexane

The information given in this Safety Data Sheet has been drafted in accordance with COMMISSION REGULATION (EU) No 453/2010 of 20 May 2010 amending 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), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC.

The information in this Safety Data Sheet on the Preparation is based on current knowledge and on current EC and national laws, as far as the working conditions of the users is beyond our knowledge and control. The product must not be used for purposes other than those that are specified without first having written instructions on how to handle. It is always the responsibility of the user to take the appropriate measures in order to comply with the requirements established by current legislation. The information contained in this Safety Sheet only states a description of the safety requirements for the preparation, and it must not be considered as a guarantee of its properties.