SAFETY DATA SHEET
STADIS (R) 450

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND COMPANY/UNDERTAKING

PRODUCT NAME: STADIS (R) 450
PART No.: *PSST450
IN-HOUSE No.: Petroleum Specialties
APPLICATIONS: Antistatic additive for use in distillate fuels.
SUPPLIER: The Associated Octel Company Limited
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(24 hour): +44 (0)151 355 3611

2. COMPOSITION/INFORMATION ON INGREDIENTS

<table>
<thead>
<tr>
<th>NAME</th>
<th>CAS No.:</th>
<th>EINECS Nr.:</th>
<th>CLASSIFICATION</th>
<th>CONTENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOLUENE</td>
<td>108-88-3</td>
<td>203-625-9</td>
<td>Xn,F R-11, 38, 48/20, 63, 65, 67 Rep3</td>
<td>30-60 %</td>
</tr>
<tr>
<td>SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC</td>
<td>64742-94-5</td>
<td>265-198-5</td>
<td>Xn,N R-51/53, 65, 66, 67</td>
<td>10-30 %</td>
</tr>
<tr>
<td>DINONYLNAPHTHYLSULPHONIC ACID</td>
<td>25322-17-2</td>
<td>246-841-9</td>
<td>Xn R-22, 36/38</td>
<td>10-30 %</td>
</tr>
<tr>
<td>TRADE SECRET POLYMER CONTAINING SULPHUR</td>
<td>- Not classified.</td>
<td>-</td>
<td>10-30 %</td>
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</tr>
<tr>
<td>TRADE SECRET POLYMER CONTAINING NITROGEN</td>
<td>- Not classified.</td>
<td>-</td>
<td>5-10 %</td>
<td></td>
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<tr>
<td>PROPA-2-OL</td>
<td>67-63-0</td>
<td>200-661-7</td>
<td>Xi,F R-11, 36, 67</td>
<td>1-5 %</td>
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<tr>
<td>NAPHTHALENE</td>
<td>91-20-3</td>
<td>202-049-5</td>
<td>Xn,N R-22, 40, 50/53 Carc3</td>
<td>1-5 %</td>
</tr>
</tbody>
</table>
3. HAZARDS IDENTIFICATION

Highly flammable. Irritating to eyes and skin. Limited evidence of a carcinogenic effect. Harmful: danger of serious damage to health by prolonged exposure through inhalation. Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment. Possible risk of harm to the unborn child. Harmful: may cause lung damage if swallowed. Vapours may cause drowsiness and dizziness.

4. FIRST AID MEASURES

GENERAL: CAUTION! First aid personnel must be aware of own risk during rescue!

INHALATION: Move the exposed person to fresh air at once. When breathing is difficult, properly trained personnel may assist affected person by administering 100% oxygen. Keep the affected person warm and at rest. Get prompt medical attention. If breathing stops, provide artificial respiration.

INGESTION: DO NOT induce vomiting. Get medical attention immediately. Immediately rinse mouth and provide fresh air.

SKIN: Wash off promptly and flush contaminated skin with water. Promptly remove clothing if soaked through and flush skin with water. Get medical attention if irritation persists after washing.

EYES: Promptly wash eyes with plenty of water while lifting the eye lids. Continue to rinse for at least 15 minutes and get medical attention.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Foam. Water spray, fog or mist. Small fires: Carbon dioxide (CO2). Dry chemicals, sand, dolomite etc.

SPECIAL FIRE FIGHTING PROCEDURES: Use water to keep fire exposed containers cool and disperse vapours. Keep run-off water out of sewers and water sources. Dike for water control. Avoid water in straight hose stream; will scatter and spread fire.

UNUSUAL FIRE & EXPLOSION HAZARDS: HIGHLY FLAMMABLE! Solvent vapours may form explosive mixtures with air. Vapours are heavier than air and may spread near ground to sources of ignition. May travel considerable distance to source of ignition and flash back.

6. ACCIDENTAL RELEASE MEASURES

PERSONAL PRECAUTION IN SPILL: Wear suitable protective clothing, gloves and eye/face protection.

PRECAUTIONS TO PROTECT ENVIRONMENT: Do not empty into drains; dispose of this material and its container at hazardous or special waste collection point.

SPILL CLEANUP METHODS: Stop leak if possible without risk. Extinguish all ignition sources. Avoid sparks, flames, heat and smoking. Ventilate. Provide ventilation and confine spill. Do not allow runoff to sewer. Clean-up personnel should use respiratory and/or liquid contact protection. Collect with absorbent, non-combustible material into suitable containers. Dike far ahead of larger spills for later disposal. Ventilate well, stop flow of gas or liquid if possible. Remove ignition sources. Do not allow chemical to enter confined spaces such as sewers due to explosion risk. Sewers designed to preclude formation of explosive concentrations of vapour may be permitted. Spillage may be stored as chemical waste in approved area. PERSONAL PROTECTION: Avoid contact with skin or inhalation of spillage, dust or vapour. Wear necessary protective equipment.

7. HANDLING AND STORAGE
USAGE PRECAUTIONS: Keep away from heat, sparks and open flame. Eliminate all sources of ignition. Ventilate well, avoid breathing vapours. Use approved respirator if air contamination is above accepted level. Do not use in confined spaces without adequate ventilation and/or respirator. Storage tanks and other containers must be grounded. Avoid spilling, skin and eye contact. Wear full protective clothing for prolonged exposure and/or high concentrations.

STORAGE PRECAUTIONS: Keep in cool, dry, ventilated storage and closed containers. Ground container and transfer equipment to eliminate static electric sparks. Flammable/combustible - Keep away from oxidizers, heat and flames.

STORAGE CRITERIA: Flammable liquid storage.

8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

INGREDIENT NAME: CAS No.: STD LT EXP 8 Hrs ST EXP 15 Min

- TOLUENE 108-88-3 OES 50 ppm(Sk) 150 ppm(Sk)
- SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC 64742-94-5 SUP 300 mg/m3
- PROPAN-2-OL 67-63-0 OES 400 ppm
- NAPHTHALENE 91-20-3 EU 10 ppm

INGREDIENT COMMENTS: OES = Occupational Exposure Standard.
SUP = Supplier’s recommendation.
EU = Indicative Values according to Commission Directive 91/322/EEC.

PROTECTIVE EQUIPMENT:

PROCESS CONDITIONS: Use engineering controls to reduce air contamination to permissible exposure level. Provide eyewash station.

VENTILATION: Provide adequate general and local exhaust ventilation.

RESPIRATORS: Seek advice from supervision on the company respiratory protection standard. If ventilation is insufficient, suitable respiratory protection must be provided. Respiratory protection must be used if air concentration exceeds acceptable level. FILTER. Gas cartridge (organic substances).

PROTECTIVE GLOVES: Nitrile. Viton rubber (fluor rubber). Resistant material.

EYE PROTECTION: Wear splash-proof eye goggles to prevent any possibility of eye contact.

OTHER PROTECTION: Wear appropriate clothing to prevent reasonably probable skin contact. Wear air-supplied mask in confined areas.

HYGIENIC WORK PRACTICES: Wash at the end of each work shift and before eating, smoking and using the toilet. Wash promptly with soap & water if skin becomes contaminated. DO NOT SMOKE IN WORK AREA!

9. PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE: Mobile.

COLOUR: Dark. Amber.

ODOUR/TASTE: Aromatic.

BOILING POINT (°C, interval): 90 Pressure: 760 mmHg

DENSITY/SPECIFIC GRAVITY (g/ml): 0.920 Temperature (°C): 15
10. STABILITY AND REACTIVITY

STABILITY: Normally stable.

CONDITIONS TO AVOID: Avoid heat, flames and other sources of ignition.


11. TOXICOLOGICAL INFORMATION

Toxicological data
Acute toxicity. LD50. Oral. Rat. 9,000 mg/kg
Acute toxicity. LD50. Skin. Rabbit. > 200 mg/kg

INHALATION:
High concentrations of vapours may irritate respiratory system and lead to headache, fatigue, nausea and vomiting.

INGESTION:
Harmful: may cause lung damage if swallowed.

SKIN:
Acts as a defatting agent on skin. May cause cracking of skin, and eczema.

EYES:
Visual disturbances, incl. blurred vision.

MEDICAL CONSIDERATIONS:
Risk of chemical pneumonia after aspiration. Avoid vomiting and normal rinse of stomach because of risk of aspiration.

Component
TOLUENE

Toxicological data
Acute toxicity. LD50. Oral. Rat. 636 mg/kg
Acute toxicity. LD50. Skin. Rabbit. 12,124 mg/kg
Acute toxicity. LDLo. Oral. Human. 50 mg/kg
Acute toxicity. LC50. 1 hour. Inhalation. Rat. > 26,700 ppm

Carcinogenicity
IARC Int. Agency for Cancer Research.

Reproduction toxicity
May cause adverse reproductive effects.

Component
SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC

Toxicological data
Acute toxicity. LD50. Oral. >2,000 mg/kg
Acute toxicity. LD50. Skin. >2,000 mg/kg
Acute toxicity. LC50. 4 hours. Inhalation. >5 mg/l

Component
PROPAN-2-OL
### Toxicological data

**NAPHTHALENE**

**Acute toxicity.**
- Oral. Rat. 4,700 mg/kg
- Skin. 12,900 mg/kg
- LC50. 4 hours. Inhalation. Rat. 16,000 ppm

**Carcinogenicity**
- Consolidated carcinogen list.
- IARC Group 3 - Not classifiable.

### 12. ECOLOGICAL INFORMATION

#### WATER HAZARD CLASSIFICATION:

- **2**

**TOLUENE**

**Ecotoxicological data**
- LC50. 96 hours fish 7.3-22.8 mg/l
- BCF. fish 13.2
- log Pow 2.69

**SOLVENT NAPHTHA (PETROLEUM), HEAVY AROMATIC**

**Ecotoxicological data**
- 1<LC/EC/IC50 <=10 mg/l
- Biological oxygen demand, BOD. 52% (CEFIC)
- Bioaccumulation. Bio-concentration factor, BCF. <100 (CONCAWE)
- log Pow >3.8 - 4.8

**PROPAN-2-OL**

**Ecotoxicological data**
- fish 42.5 - 240 mg/l TLm (24-96hr)
- log Pow -0.16 - 0.28

**NAPHTHALENE**

**Ecotoxicological data**
- LC50. 96 hours fish 1.37 - 3.8 mg/l
- log Pow 3.01 - 3.45
13. DISPOSAL CONSIDERATIONS

**DISPOSAL METHODS:**
Recover and reclaim or recycle, if practical. Empty containers must not be burned because of explosion hazard. Environmental manager must be informed of all major spillages. Do not allow runoff to sewer, waterway or ground. Contact specialist disposal companies. Dispose of in accordance with Local Authority requirements.

14. TRANSPORT INFORMATION

**LABEL FOR CONVEYANCE:**

<table>
<thead>
<tr>
<th>Description</th>
<th>Details</th>
</tr>
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<tbody>
<tr>
<td>UN No. ROAD:</td>
<td>1993</td>
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<tr>
<td>UK ROAD PACK GR.:</td>
<td>II</td>
</tr>
<tr>
<td>ADR CLASS No.:</td>
<td>3</td>
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<tr>
<td>ADR CLASS:</td>
<td>Class 3: Flammable liquids.</td>
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<tr>
<td>ADR PACK GR.</td>
<td>II</td>
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<tr>
<td>HAZARD No. (ADR):</td>
<td>33 Highly flammable liquid (flash-point below 23°C).</td>
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<tr>
<td>ADR CLASSIFICATION CODE</td>
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<tr>
<td>ADR LABEL No.:</td>
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<tr>
<td>HAZCHEM CODE:</td>
<td>3YE</td>
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<td>CEFIC TEC(R) No.:</td>
<td>30GF1-I+II</td>
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<tr>
<td>PROPER SHIPPING NAME I:</td>
<td>FLAMMABLE LIQUID, N.O.S. (Toluene, Isopropanol)</td>
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<tr>
<td>PROPER SHIPPING NAME II:</td>
<td>FLAMMABLE LIQUID, N.O.S. (Toluene, Isopropanol)</td>
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<td>ROAD TRANSPORT NOTES:</td>
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<td>IMDG PACK GR.:</td>
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<tr>
<td>EmS No.:</td>
<td>F-E, S-E</td>
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<tr>
<td>MARINE POLLUTANT:</td>
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<tr>
<td>UN No., AIR:</td>
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<td>ICAO CLASS:</td>
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<td>AIR PACK GR.:</td>
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15. REGULATORY INFORMATION

LABEL FOR SUPPLY:

RISK PHRASES:
- R-11 Highly flammable.
- R-36/38 Irritating to eyes and skin.
- R-40 Limited evidence of a carcinogenic effect.
- R-48/20 Harmful: danger of serious damage to health by prolonged exposure through inhalation.
- R-51/53 Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- R-63 Possible risk of harm to the unborn child.
- R-65 Harmful: may cause lung damage if swallowed.
- R-67 Vapours may cause drowsiness and dizziness.

SAFETY PHRASES:
- S-9 Keep container in a well-ventilated place.
- S-16 Keep away from sources of ignition - No Smoking.
- S-26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
- S-36/37 Wear suitable protective clothing and gloves.
- S-60 This material and its container must be disposed of as hazardous waste.
- S-62 If swallowed, do not induce vomiting: seek medical advice immediately and show this container or label.

UK REGULATORY REFERENCES:

EU DIRECTIVES:
- Directive 1999/45/EC
- Directive 2001/58/EC
- Directive 2001/59/EC
- Directive 2001/60/EC
- Directive 2004/73/EC

APPROVED CODE OF PRACTICE:
Safety Data Sheets for Substances and Preparations L62.

GUIDANCE NOTES:
Occupational Exposure Limits EH40.
Introduction to Local Exhaust Ventilation HS(G)37.

16. OTHER INFORMATION

USER NOTES:

REVISION COMMENTS:

ISSUED BY:
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Telephone: +44 (0)151 355 3611

REVISION DATE:
2004-09-15

REV. No./REPL. SDS GENERATED:
4 / 2003-12-11

SDS No.:
10547

SAFETY DATA SHEET STATUS:
Approved.

PRINTING DATE:
2004-10-21

R-PHRASES (Full Text):
- R-11 Highly flammable.
- R-36 Irritating to eyes.
- R-67 Vapours may cause drowsiness and

**DISCLAIMER:**

The data given here is based on current knowledge and experience. This Safety Data Sheet describes the product in terms of safety requirements and does not signify any warranty with regard to the products properties.