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

Commercial Product Name
ADDOCAT 1594

Use of the Substance/Preparation
Additives for use in the production of polyurethanes

Producer
Rhein Chemie Rheinau GmbH
Düsseldorfer Straße 23-27
68219 Mannheim
Germany
Telephone +49 (0)621-8907-290
Telefax +49 (0)621-8907-404
E-Mail product.safety@rheinchemie.com

Emergency telephone number +49 (0)621-8907-313

2. COMPOSITION/INFORMATION ON INGREDIENTS

Hazardous components
1,3,5-tris (dimethylaminopropyl) hexahydrotriazine
Weight %: >= 99,00
EEC No.: 240-004-1
Warning symbol: C
R-phrase(s): R34

3. HAZARDS IDENTIFICATION

Classification
Symbol(s)
Corrosive

R-phrase(s)
Causes burns.

4. FIRST AID MEASURES

General advice
Take off all contaminated clothing immediately.

Inhalation
If aerosol or vapour is inhaled in high concentrations: Take the person into the fresh air and keep him warm, let him rest; if there is difficulty in breathing, medical advice is required.

Skin contact
After contact with skin, wash immediately with plenty of water. Sterile protective bandage; consult GP.

Eye contact
Contamination of the eyes must be treated by thorough irrigation with water, with the eyelids held open. A doctor (or eye specialist should be consulted immediately.

Ingestion
If product is swallowed drink plenty of water immediately. Then seek medical advice. Do NOT induce vomiting.

5. FIRE-FIGHTING MEASURES

Suitable extinguishing media
water, foam, dry powder, CO2 (carbon dioxide)
SAFETY DATA SHEET
ADDOCAT 1594
according to EC directive 91/155/EEC

Division Engineering Plastics

Special protective equipment for fire-fighters
During fire-fighting a respirator with independent air-supply and airtight garment is required.

Additional advice
In the event of fire and/or explosion do not breathe fumes. Make provision for product and fire-fighting water to be retained.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions
Put on protective equipment (see Chapter 8). Avoid contact with skin, eyes and clothes.

Environmental precautions
Do not allow into the sewerage system, surface waters or groundwater or into the soil.

Methods for cleaning up
Take up with absorbent for chemicals or, if necessary with dry sand. Dispose of in accordance with regulations. For disposal measures see Chapter 13.

7. HANDLING AND STORAGE

Handling
Advice on safe handling
Handle in accordance with good industrial hygiene and safety practice. Avoid contact with skin and eyes. Ensure adequate ventilation or exhaust ventilation in the working area.

Advice on protection against fire and explosion
Take measures to prevent the build up of electrostatic charge. Keep away from/remove sources of ignition. Do not smoke.

Storage
German storage class
8 Corrosive Substances

Requirements for storage areas and containers
Keep container dry and tightly closed in a cool and well ventilated place. Keep away from foodstuffs, drinks and tobacco. Keep away from acids. Further specific information see our: Technical Data Sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure limit values
Contains no substances with occupational exposure limit values.

limitation and supervision of the exposition
see chapter 7

limitation and supervision of the exposition at working place
Respiratory protection
Particle filter EN 143 type P2 if product forms vapours/aerosols.

Hand protection
Chemical-resistant protective gloves according to DIN/EN 374 are recommended. Suitable materials for safety gloves; DIN EN 374-3: fluorinated rubber - FKM: thickness >= 0.70 mm; breakthrough time >= 480 min. Recommendation: contaminated gloves should be disposed of.

Eye protection
Safety glasses with side-shields

Skin and body protection
Wear suitable protective clothing.

Hygiene measures
Keep working clothes separately. Wash hands before breaks and at the end of workday. Avoid contact with skin and eyes and the inhalation of vapour.

Protective measures
When using do not eat or drink. When using do not smoke.
## 9. PHYSICAL AND CHEMICAL PROPERTIES

### General Information

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Form</td>
<td>liquid</td>
</tr>
<tr>
<td>Colour</td>
<td>colourless to yellowish, clear</td>
</tr>
<tr>
<td>Odour</td>
<td>like amine</td>
</tr>
<tr>
<td>Solidifying point:</td>
<td>ca. -59 °C</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>225 °C</td>
</tr>
<tr>
<td>Density</td>
<td>ca. 0,91 g/cm³ (DIN 51757)</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>&lt; 1 hPa</td>
</tr>
<tr>
<td>Viscosity, dynamic</td>
<td>ca. 30 mPa.s</td>
</tr>
<tr>
<td>Water solubility</td>
<td>partly miscible</td>
</tr>
<tr>
<td>pH</td>
<td>ca. 12</td>
</tr>
</tbody>
</table>

### Safety data

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flash point</td>
<td>128 °C (DIN EN 22719)</td>
</tr>
<tr>
<td>Ignition temperature</td>
<td>215 °C (DIN 51794)</td>
</tr>
<tr>
<td>Lower explosion limit</td>
<td>0,40 %(V)</td>
</tr>
<tr>
<td>Upper explosion limit</td>
<td>1,70 %(V)</td>
</tr>
</tbody>
</table>

## 10. STABILITY AND REACTIVITY

**Materials to avoid**
Note exothermic reaction with isocyanates.; Pay attention to exothermic reaction with acids.

**Thermal decomposition**
Thermal decomposition does not occur until initial boiling point.

**Hazardous decomposition products**
No hazardous decomposition products when stored and handled correctly.

## 11. TOXICOLOGICAL INFORMATION

### Toxicological tests

<table>
<thead>
<tr>
<th>Test</th>
<th>Result</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute oral toxicity</td>
<td>LD50: &gt; 2,000 mg/Kg</td>
</tr>
<tr>
<td>Species</td>
<td>rat</td>
</tr>
<tr>
<td>Test substance</td>
<td>1,3,5-tris (dimethylaminopropyl) hexahydratiazone</td>
</tr>
</tbody>
</table>

**Skin irritation**
Corrosive

**Eye irritation**
Risk of serious damage to eyes.
12. ECOLOGICAL INFORMATION

Elimination information (persistence and degradability)

Biodegradability

According to the results of tests of biodegradability this product is considered as being readily biodegradable.

Ecotoxicity effects

Toxicity to daphnia

EC50 (48 h): 10 - 100 mg/l

Additional ecological information

Do not allow to escape into waterways, waste water or soil. Where low concentrations are discharged properly into adapted biological wastewater treatment plants, a disturbance of the degradation activity of the activated sludge is not expected.

13. DISPOSAL CONSIDERATIONS

Waste from residues

Dispose in accordance with applicable international, national and local laws, ordinances and statutes. For disposal within the EC, the appropriate code according to the European Waste Catalogue (EWC) should be used.

Contaminated packaging

After containers have been emptied as thoroughly as possible (e.g. by pouring, scraping or draining until "drip-dry"), they can be sent to an appropriate collection point set up within the framework of the existing take-back scheme of the chemical industry. Containers must be recycled in compliance with national legislation and and environmental regulations.

14. TRANSPORT INFORMATION

ADR/RID/ADNR

UN-No.: 2735
Class: 8
Packaging group: II
Description of the goods: UN 2735, AMINES, LIQUID, CORROSIVE, N.O.S. N',N',N'-DIMETHYLAMINOPROPYLHEXAHYDROTRIAZINE

IMDG

UN-No.: 2735
Class: 8
Packaging group: II
EmS-1 (EmS-2): F-A (S-B) MPO: --
Description of the goods: AMINES, LIQUID, CORROSIVE, N.O.S. N',N',N'-DIMETHYLAMINOPROPYLHEXAHYDROTRIAZINE

ICAO/IATA

UN-No.: 2735
Class: 8
Packaging group: II
Shipment approval IATA-P: Yes IATA-C: Yes
Description of the goods: Amines, liquid, corrosive, n.o.s. N',N',N'-DIMETHYLAMINOPROPYLHEXAHYDROTRIAZINE

Other information

Corrosive. Keep away from foodstuffs, acids and alkalis.

15. REGULATORY INFORMATION

Labelling according to EC Directives

Symbol(s)

C Corrosive

Contains: 1,3,5-tris(dimethylaminopropyl) hexahydrotriazine

R-phrase(s)

R34 Causes burns.
S-phrase(s)

S36/37/39  Wear suitable protective clothing, gloves and eye/face protection.
S26     In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S45     In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

National legislation
Water contaminating class (Germany)
WGK1: slightly water endangering

16. OTHER INFORMATION

Text of R phrases mentioned in Section 2
R34 Causes burns.

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.