MATERIAL SAFETY DATA SHEET

SAFETY DATA SHEET  
According to EC-directive 2001/58/EC

CTP(PVI)

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

Product lable name:    N-(Cyclohexylthio)phthalimide
Supplier :             Shandong Yanggu Huatai Chemical Co., Ltd.
                        No.1 Civil Industrial District, Yanggu County Shandong China
Tel.:                  0086-635-6381126
Fax:                   0086-635-6381030
Emergency telephone:  0086-635-6381031
Intended use          Vulcanization inhibitor

2. COMPOSITION/INFORMATION ON INGREDIENTS

This product is to be considered as a substance in conformance to EC directives.
Information on hazardous ingredients

Chemical description:    N-(Cyclohexylthio)phthalimide

Composition/information on ingredients

<table>
<thead>
<tr>
<th>Number</th>
<th>%W/W</th>
<th>CAS-number</th>
<th>Chemical name</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>&gt; 95</td>
<td>17796-82-6</td>
<td>N-(Cyclohexylthio)phthalimide</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Number</th>
<th>EC-number</th>
<th>Annex-1 number</th>
<th>Risk-phrase(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>241-774-1</td>
<td></td>
<td>R43 R50/53</td>
</tr>
</tbody>
</table>

Other information
Formula    C₁₄H₁₅NO₂S

3. HAZARDS IDENTIFICATION

Repeated or prolonged skin contact may cause irritation or sensitization.
May cause persistent skin odour.

4. FIRST AID MEASURES

Symptoms and effects: Dust may be irritating to the respiratory tract and cause symptoms of bronchitis.
Repeated contact may cause skin sensitization.

First aid

General  In all cases of doubt, or when symptoms persist, seek medical attention.
Inhalation No specific recommendations.
Skin    Wash off with plenty of soap and water.

Eye    Rinse thoroughly with plenty of water. Eyelids should be held away from the eyeball to ensure thorough rinse. Seek medical advice if irritation develops.
Ingestion  Only when conscious, rinse mouth, give plenty of water to drink. DO NOT induce vomiting. Seek medical advice.

Advice to physician
MATERIAL SAFETY DATA SHEET

SAFETY DATA SHEET
According to EC-directive 2001/58/EC

CTP(PVI)

5. FIRE-FIGTHING MEASURES
Extinguishing media
Waterspray, water mist, foam,dry chemical powder,CO2

Unsuitable extinguishing media
No specific recommendations

Hazardous decomposition/
Sulfur oxides(SOx),nitrous gases(NOx).

Combustion products

Protective equipment
Wear self contained breathing apparatus.

Other information
Do not allow run-off from fire fighting to enter drains or water courses.

6: ACCIDENTAL RELEASE MEASURE

Personal precautions:
For personal prtection see Section 8.

Environmental precautions:
Avoid discharge into the environment.

Methods for cleaning up:
Collect as much as possible in a clean container for (preferable)reuse or disposal.

7. HANDLING AND STORAGE

Handling
Prevent skin contact and contamination of clothing.
Avoid dust generation.Avoid breathing dust.
Wash thoughtly with soap and water after handling.

Fire prevention
Dust explosion class(VDI 2263):St3.
Kst:335 bar.m/s.
Maximum corrected explosion pressure:8,4 bar.

Storage requirements
Store in a dry and cool place.

Other information
Wash contaminated skin promptly with plenty of soap and water.Launder all contaminated clothing and clean protective equipment before reuse.

8.EXPOSURE CONTROLS/PERSONAL PROTECTION

Engineering controls:
Avoid dust generation.Ensure good ventilation and local exhaustion of the working area.

Exposure limits
No exposure limit has been established.shandong yanggu huatai chemical co.,ltd.has adopted an internal OEL.
Skin absorption may contribute to the overall exposure.

Name
N-(Cyclohexylthio)phthalimide

Personal protection

Respiratory
Avoid breathing dust.In case of insufficient ventilation,wear suitable respiratory equipment.

Hand
Wear chemically resistant gloves with long sleeves to prevent skin contact.

Eye
Wear safety goggles.

Skin and body
Wear suitable protective clothing.

Other information
Wash thoroughly with soap and water after handling.Regular showering can minimize skin odour once it has developed.
SAFETY DATA SHEET

According to EC-directive 2001/58/EC

CTP(PVI)

9. PHYSICAL AND CHEMICAL PROPERTIES

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Dedusted powder</td>
</tr>
<tr>
<td>Colour</td>
<td>white</td>
</tr>
<tr>
<td>Odour</td>
<td>unpleasant</td>
</tr>
<tr>
<td>Boiling point/range</td>
<td>not determined</td>
</tr>
<tr>
<td>Melting point/range</td>
<td>89°C (initial)</td>
</tr>
<tr>
<td></td>
<td>89-94°C (final)</td>
</tr>
<tr>
<td>Flash point</td>
<td>280°C</td>
</tr>
<tr>
<td>Flammability</td>
<td>not (in)flammable (solid substance)</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>approx. 500°C (Godbert-Greenwald)</td>
</tr>
<tr>
<td>Explosive properties</td>
<td>dust explosion hazard</td>
</tr>
<tr>
<td>Explosion limits</td>
<td>Lower explosion limits (LEL): 30g/m³</td>
</tr>
<tr>
<td></td>
<td>Minimum ignition energy (MIE): &lt; 2mj</td>
</tr>
<tr>
<td>Oxidizing properties</td>
<td>not determined</td>
</tr>
<tr>
<td>Vapour pressure</td>
<td>Negligible at room temperatures</td>
</tr>
<tr>
<td>Density</td>
<td>1330 kg/m³ (25°C)</td>
</tr>
<tr>
<td>Bulk density</td>
<td>700 kg/m³ (compacted, 25°C)</td>
</tr>
<tr>
<td>Solubility in water</td>
<td>0.022 kg/m³ (25°C)</td>
</tr>
<tr>
<td>Solubility in other solvents</td>
<td>Soluble in most organic solvents</td>
</tr>
<tr>
<td>Ph value</td>
<td>not determined</td>
</tr>
<tr>
<td>Partition coefficient</td>
<td>3.66</td>
</tr>
<tr>
<td>Relative vapour density</td>
<td>not applicable</td>
</tr>
<tr>
<td>(air=1)</td>
<td></td>
</tr>
<tr>
<td>Viscosity</td>
<td>not applicable</td>
</tr>
</tbody>
</table>

10. STABILITY AND REACTIVITY

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stability</td>
<td>Stable under recommended storage and handling conditions (see section 7). <strong>Conditions to avoid</strong> Heating &gt; 100°C: May catch fire.</td>
</tr>
<tr>
<td>Materials to avoid</td>
<td>No specific recommendations</td>
</tr>
<tr>
<td>Hazard decomposition</td>
<td>Thermal decomposition products: carbon monoxide (CO), nitrous gases (NOx), sulfur</td>
</tr>
<tr>
<td>Products</td>
<td>Oxides (Sox)</td>
</tr>
</tbody>
</table>

11. TOXICOLOGICAL INFORMATION

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name</td>
<td>N-(Cyclohexylthio)phthalimide</td>
</tr>
<tr>
<td>Acute toxicity</td>
<td></td>
</tr>
<tr>
<td>Oral LD₅₀</td>
<td>Rat: 2600 mg/kg</td>
</tr>
<tr>
<td>Dermal LD₅₀</td>
<td>Rabbit: &gt; 5010 mg/kg</td>
</tr>
<tr>
<td>Irritation</td>
<td></td>
</tr>
<tr>
<td>Skin</td>
<td>Overall mean EU skin irritation scores:</td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET
According to EC-directive 2001/58/EC

CTP(PVI)

| Redness:0.0. |
| Swelling:0.0. |

Eye

| Conjunctival redness:1.6. |
| Conjunctival swelling:1.1. |
| Iris lesions:0.0. |
| Cornea opacity:0.0. |

Genotoxicity

Not mutagenic(in vitro)

Other toxicological

Subchronic(90 days) inhalation toxicology (rat): No Observed Adverse Effect Information

Level(NOAEIL):15mg/kg

Subacute(28 days) oral toxicity: No Observed Adverse Effect Level(NOAEIL):300mg/kg/day

Oral carcinogenicity test(rat): LOAEL(Lowest observable adverse effect level):50mg/kg/day.

Not teratogenic(rabbit).

Humen experience:

Patch testing indicate that this material is a primary irritant,a cumulative irritant,and a sensitizer.

Complaints of body odour are frequent as a result of total body exposure. These odours may last for several days.

12. ECOLOGICAL INFORMATILON

Name

N-(Cyclohexylthio)phthalimide

Ecotoxicity

Fish

96h-LC50(Lepomis macrochirus) 1.2mg/l

96h-LC50(Oncorhynchus mykiss) 0.41mg/l

96h-LC50(Pimephales promelas) 0.42mg/l

daphnia

48h-EC50(Daphnia magana) 32mg/l

algae:

96h-EC50(Selenastrum, capricornutum): 21mg/l

Fate

Bioaccumulation

Bio Concentration Factor(BCF):130(calculated)

13. DESPOSAL CONSIDERITIONS

Product

Avoid discharge into the environment.

Small quantities: According to local regulations.

Large quantities: Consult Shandong Yanggu Huatai Chemical Co., Ltd. For special advice.

Contaminated packaging

According to local regulations.

Other information

Waste code number: Please refer to your specific industry in the European Waste Catalogue.
SAFETY DATA SHEET

According to EC-directive 2001/58/EC

CTP(PVI)

14. TRANSPORT INFORMATION

   Land transport (ADR/ RID)
   ADR class: not restricted
   RID class: not restricted
   ADR/RID packing group not relevant
   Hazard Identification No.: not relevant
   Substance Identification No.: not relevant
   TREM-Card: not relevant
   UN number: none
   Proper Shipping Name: not relevant

   Sea transport (IMDG-code/ IMO)
   IMO/IMDG code: not restricted
   Class: not restricted
   Packing group: not relevant
   EMS: not relevant
   Subsidiary Risk: none
   Marine pollutant: none
   Proper Shipping Name: not relevant

   Air transport (ICAO-TI/ IATA-DGR)
   ICAO-TI/IATA-DGR Class: not restricted
   UN number: none
   Packing group: not relevant
   Proper Shipping Name: not relevant

15. REGULATORY INFORMATION

   Chemical description N-(Cyclohexylthio)phthalimide

   Labelling according to EC directives
   EC-NUMBER See section 2
   Classification based on Tests

   R(isk)phrase(s) R43 May cause sensitization by skin contact
   R 50/53 Very toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment

   S(afety) phrase(s) S22 Do not breathe dust
SAFETY DATA SHEET
According to EC-directive 2001/58/EC

CTP(PVI)

S37 Wear suitable gloves
S61 Avoid release to the environment. Refer to special instructions/Safety data sheets

Wassergefährdungsklasse
2(VwVwS Anhang 3,Nr.6624)

(WGK)

16. OTHER INFORMATION
This information only concerns the above mentioned product and does not need to be valid if used with other product(s) or in any process. The information is to our best present knowledge correct and complete and is given in good faith but without warranty. It remains the user’s own responsibility to make sure that the information is appropriate and complete for his special use of this product.

R-phrase information

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