1. PRODUCT IDENTIFICATION:
Synonyms: 2,4-Bis(4-methoxyphenyl)-1,3,2,4-dithiadiphosphetane 2,4-disulfide, p-Methoxyphenylthiophosphine sulfide (dimer)
CAS No.: 19172-47-5
Molecular Weight: 404.47
Chemical Formula: C14H14O2P2S4

2. COMPOSITION, INFORMATION ON INGREDIENTS:

<table>
<thead>
<tr>
<th>Chemical Name</th>
<th>CAS No.</th>
<th>Percent</th>
<th>Hazardous</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lawesson's Reagent</td>
<td>19172-47-5</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. HAZARDS IDENTIFICATION:
Contact with water liberates toxic, highly flammable gas.

4. FIRST AID MEASURES:
After inhalation: fresh air.
After skin contact: wash off with plenty of water. Remove contaminated clothing.
After eye contact: rinse out with plenty of water with the eyelid held wide open. Call in ophthalmologist if necessary.
After swallowing: make victim drink plenty of water, induce vomiting. Immediately call in physician.

5. FIRE FIGHTING MEASURES:
Suitable extinguishing media: CO2, powder.
Extinguishing media not to be used: Water, foam.
Special risks: Combustible. Development of hazardous combustion gases or vapours possible in the event of fire. The following may develop in event of fire: sulfur dioxide, hydrogen sulfide, phosphorus oxides.
Special protective equipment for fire fighting: Do not stay in dangerous zone without self-contained breathing apparatus. In order to avoid contact with skin, keep a safety distance and wear suitable protective clothing.
Other information:
Prevent fire-fighting water from entering surface water or groundwater. Contain escaping vapours with water.

6. ACCIDENTAL RELEASE MEASURES:
Person-related precautionary measures: Avoid substance contact. Avoid generation of dusts; do not inhale dusts. Ensure supply of fresh air in enclosed rooms.
Environmental-protection measures: Do not allow to enter sewerage system.


7. HANDLING AND STORAGE:
Handling: Notes for safe handling:
Keep workplace dry. Do not allow product to come into contact with water.
Storage: Tightly closed and away from sources of ignition and heat. Dry. At +15°C to +25°C.

8. EXPOSURE CONTROLS, PERSONAL PROTECTION:
Personal Protective Equipment
Protective clothing should be selected specifically for the working place, depending on concentration and quantity of the hazardous substances handled. The resistance of the protective clothing to chemicals should be ascertained with the respective supplier. Respiratory protection: required when dusts are generated. Filter P 3 (acc. to DIN 3181) for solid and liquid particles of toxic and very toxic substances
Eye protection: required

9. PHYSICAL AND CHEMICAL PROPERTIES:
Form: powder, finecrystalline
Colour: yellow
Odour: malodorous
pH value not available
Melting point 221-224 °C
Boiling point not available
Ignition temperature not available
Flash point 50 °C
Explosion limits lower not available
upper not available
Density not available Bulk density 500 kg/m3
Solubility in water (water (20 °C) (decomposition)

10. STABILITY AND REACTIVITY:
Conditions to be avoided
Moisture. (Release of: hydrogen sulfide)!
Substances to be avoided
Risk of ignition or formation of inflammable gases or vapors with: / A risk of explosion and/or of toxic gas formation exists with the following substances: water.
Violent reactions possible with: strong oxidizing agents.
Hazardous decomposition products
in the event of fire: See chapter 5.

11. TOXICOLOGICAL INFORMATION:
Acute toxicity
Quantitative data on the toxicity of this product are not available.
Further toxicological information
Decomposition of the substance with tissue moisture.
Effect of the decomposition products.
After inhalation: Irritations of the mucous membranes, coughing, and dyspnoea. Inhalation may lead to the formation of oedemas in the respiratory tract.
After skin contact: Irritations.
After eye contact: Irritations.
After swallowing: irritations of mucous membranes in the mouth, pharynx, oesophagus and gastrointestinal tract.
After uptake of large quantities: headache, nausea, drop in blood pressure.

**Further data**

Further hazardous properties cannot be excluded. The product should be handled with the care usual when dealing with chemicals.

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**12. ECOLOGICAL INFORMATION:**

Ecotoxic effects:
Quantitative data on the ecological effect of this product are not available.

Further ecologic data:
Do not allow to enter waters, waste water, or soil!

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**13. DISPOSAL CONSIDERATIONS:**

**Product:**
Chemicals must be disposed of in compliance with the respective national regulations. Under www.retrologistik.de you will find country- and substance-specific information as well as contact partners.

**Packaging:**
Merck product packaging must be disposed of in compliance with the country-specific regulations or must be passed to a packaging return system. Under www.retrologistik.de you will find special information on the respective national conditions as well as contact partners.

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**14. TRANSPORT INFORMATION:**

Road & Rail ADR, RID prohibited
UN 3464 ORGANISCHE PHOSPHORVERBINDUNGEN, FEST, GIFTIG, N.A.G. (2,4-BIS(4-METHOXYPHENYL)-2,4-DITHIOXOL-1,3,2,4-DITHIADIPHOSPHETAN), 6.1, II
Inland waterway ADN, ADNR not tested Sea IMDG-Code
UN 3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S. (2,4-BIS(4-METHOXYPHENYL)-2,4-DITHIOXOL-1,3,2,4-DITHIA DIPHOSPHETANE), 6.1, II Ems F-A S-A
Air CAO, PAX
UN 3464 ORGANOPHOSPHORUS COMPOUND, TOXIC, SOLID, N.O.S. (2,4-BIS(4-METHOXYPHENYL)-2,4-DITHIOXOL-1,3,2,4-DITHIA DIPHOSPHETANE), 6.1, II
The transport regulations are cited according to international regulations and in the form applicable in Germany. Possible national deviations in other countries are not considered.

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**15. REGULATORY INFORMATION:**

Labelling according to EC Directives
Symbol F Highly flammable
R-phrases: 15/29 Contact with water liberates toxic, highly flammable gas.
16. DISCLAIMER INFORMATION:

DISCLAIMER:

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