1. IDENTIFICATION OF SUBSTANCE/PREPARATION AND THE COMPANY UNDERTAKING

   Chemical Name: (S)-Patulin methyl ether
   Product Code: FP26769
   Synonyms: (S)-4-Methoxy-4H-furo[3,2-c]pyran-2(6H)-one
   (S)-O-Methyl patulin
   Recommended uses: For R&D purposes
   Supplier: Carbosynth Ltd, 8&9 Old Station Business Park, Compton, Berkshire, RG20 6NE, UK.
   Emergency contact numbers: Telephone: +44 (0)1635 578 444
                                Fax: +44 (0)1635 579 444
                                Mobile: +44 (0)7887 998 634

2. HAZARDS IDENTIFICATION

   Very toxic if swallowed. Irritating to the skin.

   **Classification:**
   According to Regulation (EC) No1272/2008
   Acute toxicity, oral (Category 2)
   Skin irritation (Category 2)

   **Labelling and precautionary statements:**
   Pictogram:
   
   Signal word: Danger.

   **Hazard statement(s):**
   H300 Fatal if swallowed.
   H315 Causes skin irritation.

   **Precautionary statement(s):**
   P261 Avoid breathing dust/fume/gas/mist/vapours/spray.
   P264 Wash hands thoroughly after handling.
   P280 Wear protective gloves/protective clothing.
   P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician.
   P302/P352 IF ON SKIN: Wash with plenty of soap and water.

   **Hazard symbol(s):**
   T Toxic.
   Xi Irritant

   **R-phrase(s):**
   R28 Very toxic if swallowed.
   R38 Irritating to the skin.
3. COMPOSITION/INFORMATION ON INGREDIENTS

Molecular Formula: \( \text{C}_8\text{H}_8\text{O}_4 \)
Molecular weight: 168.15
CAS Number: 123251-09-2
EINECS Number: -

Synonyms: (S)-4-Methoxy-4H-furo[3,2-c]pyran-2(6H)-one
(S)-O-Methyl patulin

4. FIRST AID MEASURES

Eye contact: Immediately flush eye with copious amounts of water for at least 15 minutes. Get medical aid immediately.

Skin contact: In case of contact remove contaminated clothing and immediately wash affected areas with copious quantities of water and soap for at least 15 minutes. Get medical aid immediately. Wash contaminated clothing before reuse.

Inhalation: Remove to fresh air. If not breathing give artificial respiration. If breathing is difficult give oxygen. Get medical aid.

Ingestion: Never give anything by mouth to an unconscious person. Wash out mouth with water provided person is conscious. Call a physician.

Notes to Physician: Treat symptomatically and supportively. Most important symptoms and effects, both acute and delayed are tremors, chromodacryorrhea and fasciculations.

5. FIRE-FIGHTING MEASURES

Personal precautions: As in any fire, wear a self-contained breathing apparatus in pressure-demand, MSHA/NIOSH (approved or equivalent), and full protective gear.

Extinguishing media: In case of fire use water spray, dry chemical, carbon dioxide, or alcohol-resistant foam.

Unusual fire & explosion hazards: Emits toxic fumes under fire conditions.

Special hazards arising from the substance or mixture: Carbon oxides.

6. ACCIDENTAL RELEASE MEASURES

General Information: Use proper personal protective equipment as indicated in
8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Contains no substances with occupational exposure limit values.

Personal protection equipment:

Eye protection: Wear appropriate protective eyeglasses with side-shields conforming to EN 166, chemical safety goggles or face-shield (min. 8-inch) as described by OSHA’s eye and face protection regulations. Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166 (EU).

Skin protection: Wear appropriate protective gloves to prevent skin exposure, as defined in EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body protection: Appropriate protective clothing, overalls.

Respiratory protection: Where risk assessment indicates air-purifying respirators are required use a full-face particle respirator N100 (US) or type P3 (EN 143) respirator cartridges as a backup to
(S)-Patulin methyl ether

Engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Respirators and components must be tested and approved under appropriate government standards - NIOSH (US) or CEN (EU).

Hygiene measures: Use good working practices. Wash hands and face thoroughly after handling.

9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance: Yellow to brown powder
Odour: Data not available/does not apply.
Odour threshold: Data not available/does not apply.
PH: Data not available/does not apply.
Melting point: ~60°C
Boiling point: Data not available/does not apply.
Flash point: Data not available/does not apply.
Evaporation rate: Data not available/does not apply.
Flammability: Data not available/does not apply.
Flammability or explosive limits: Data not available/does not apply.
Vapor pressure: Data not available/does not apply.
Vapor density: Data not available/does not apply.
Density: Data not available/does not apply.
Solubility: Ethyl acetate and DMSO.
Partition coefficient: n-octanol/water Data not available/does not apply.
Auto-ignition temperature: Data not available/does not apply.
Decomposition temperature: Data not available/does not apply.
Viscosity: Data not available/does not apply.

10. STABILITY AND REACTIVITY

Chemical stability: Stable under recommended storage conditions.
Conditions to avoid: Data not available.
Incompatibilities with other materials: Strong oxidizing agents.
Hazardous decomposition products: Data not available.
Hazardous polymerization: Data not available.

11. TOXICOLOGICAL INFORMATION

To the best of our knowledge, the chemical, physical and toxicological properties of this material have not been thoroughly investigated.

RTCS #: Not listed
Acute toxicity: Data not available.
Skin corrosion/irritation: Data not available.

Serious eye damage/eye irritation: Data not available.

Respiratory or skin sensitization: Data not available.

Germ cell mutagenicity: Data not available.

Carcinogenicity:
IARC: Data not available.

Reproductive toxicity: Data not available.

Specific target organ toxicity - single exposure: Data not available.

Specific target organ toxicity - repeated exposure: Data not available.

Aspiration hazard: Data not available.

Signs and symptoms of exposure: Tremors, chromodacryorrhea, fasciculations.

Potential health effects:
Eye: May cause eye irritation.
Skin: May be harmful if absorbed through the skin. Causes skin irritation.
Ingestion: May be fatal if swallowed.
Inhalation: May be harmful if inhaled. May cause respiratory tract irritation.
Chronic: No information found.

12. ECOLOGICAL INFORMATION

Do not allow product to reach ground water, water bodies or sewage system, even in small quantities.

Other adverse effects: Data not available.

13. DISPOSAL CONSIDERATIONS

Observe all federal, state and local environmental regulations. Mix or dissolve the material with a combustible solvent and burn in a chemical incinerator equipped with and afterburner and scrubber. Contact a licensed professional waste disposal service to dispose of this material.

14. TRANSPORT INFORMATION

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This product is classified as hazardous for transport.

**RID/ADR**

Proper Shipping Name: TOXIC SOLID, ORGANIC, N.O.S. ((S)-Patulin methyl ether)
UN Number: 2811
Class: 6.1
Packing Group: II
Environmental hazards: No.

**IMDG**

Proper Shipping Name: TOXIC SOLID, ORGANIC, N.O.S. ((S)-Patulin methyl ether)
UN Number: 2811
Class: 6.1
Packing Group: II
Marine Pollutant: No.

**IATA**

Proper Shipping Name: TOXIC SOLID, ORGANIC, N.O.S. ((S)-Patulin methyl ether)
UN Number: 2811
Class: 6.1
Packing Group: II
Environmental hazards: No.

15. **REGULATORY INFORMATION**

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

16. **ADDITIONAL INFORMATION**

Further information on PPE:
European Standard & performance category markings:
- EN143 - Particulates filter.
- EN166 - Standard for eye protection.
- EN374 - Protects hands against chemicals and/or microorganisms.

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.