Technical data sheet

1. Product Identification

Item	Specification
Product Name	Osthole
Chemical Name	Osthole
CAS Number	484-12-8
Molecular Formula	$C_{15}H_{16}O_3$
Molecular Weight	244.29 g/mol
Chemical Class	Coumarin Derivative
Botanical Source	*Cnidium monnieri* (L.) Cusson
Appearance	White to off-white crystalline powder
Odor	Characteristic
Grade	Botanical Active Ingredient

2. Chemical Structure and Properties

Osthole is a naturally occurring prenylated coumarin compound found in several medicinal plants, particularly *Cnidium monnieri*.
It is also known as osthol and is one of the characteristic bioactive constituents of Cnidium fruit extract.

Property	Description
Chemical Class	Coumarin
Chemical Structure	7-Methoxy-8-(3-methylbut-2-en-1-yl)-2H-chromen-2-one
Melting Point	Approximately 82–84°C
Solubility in Water	Practically insoluble
Solubility in Ethanol	Soluble
Solubility in Methanol	Soluble
Solubility in Organic Solvents	Soluble in several organic solvents

3. Quality Specifications

The following is a proposed commercial specification for high-purity Osthole. Actual release specifications should be confirmed against the manufacturer's validated COA.

Parameter	Specification
Appearance	White to off-white crystalline powder
Identification	Positive by HPLC
Osthole Content (HPLC)	≥98.0%
Loss on Drying	≤5.0%
Residue on Ignition	≤0.5%
Heavy Metals	≤10 ppm
Lead (Pb)	≤2.0 ppm
Arsenic (As)	≤2.0 ppm

Cadmium (Cd)	≤1.0 ppm
Mercury (Hg)	≤0.1 ppm
Total Plate Count	≤1,000 CFU/g
Yeast & Mold	≤100 CFU/g
E. coli	Negative/10 g
Salmonella	Negative/25 g

Note: The above specifications are a suggested commercial reference, not a verified manufacturer's specification. Microbiological and heavy metal limits should be adjusted according to the intended application and destination-market requirements.

4. Applications

Osthole is primarily used as a botanical active ingredient and phytochemical reference compound. Potential application areas include:

Dietary Supplements: Used as a standardized botanical constituent in herbal formulations.
Botanical Extracts: Serves as a characteristic marker compound in Cnidium monnieri extracts.
Research and Development: Used in phytochemical, pharmacological, and natural product research.
Cosmetic Ingredient Research: Investigated for potential skin-related biological activities.

Osthole has been investigated in preclinical studies for various biological activities. Such research findings should not be interpreted as established clinical health benefits.

5. Manufacturing Process

Osthole can be obtained through extraction and purification from natural botanical materials, particularly the dried fruits of *Cnidium monnieri*.

A typical manufacturing process includes:

- ✧ Selection and inspection of botanical raw materials.
- ✧ Crushing and preparation of dried plant materials.
- ✧ Solvent extraction.
- ✧ Filtration and concentration.
- ✧ Purification and crystallization.
- ✧ Drying and milling.
- ✧ Quality inspection and packaging.

The final purity depends on extraction efficiency and purification technology.

6. Packaging

1 kg / aluminum foil bag.
5 kg / aluminum foil bag.
25 kg / fiber drum or customized packaging.

Packaging can be adjusted according to customer requirements.

7. Storage and Handling

Store in a cool, dry, and well-ventilated place.
Keep away from direct sunlight, heat, and moisture.
Keep the container tightly closed when not in use.
Avoid contact with strong oxidizing agents.
Handle in accordance with standard industrial hygiene practices.

8. Transportation

Osthole is generally transported as a non-dangerous chemical product under normal conditions, subject to applicable transport regulations and the supplier's classification assessment.
Protect the product from moisture, excessive heat, and physical damage during transportation.

9. Shelf Life

Recommended shelf life: 24 months when stored in unopened original packaging under appropriate storage conditions.

10. Manufacturer / Supplier

Jiangsu Khonor Chemicals Co.,Limited
Professional, Efficient and Competitive.
We are committed to supplying botanical ingredients, specialty chemicals, food additives, and nutraceutical raw materials to customers worldwide.
Technical Note: This TDS is a general commercial reference document. Actual product specifications, test methods, and quality parameters should be confirmed against the manufacturer's latest Certificate of Analysis (COA) before commercial use.