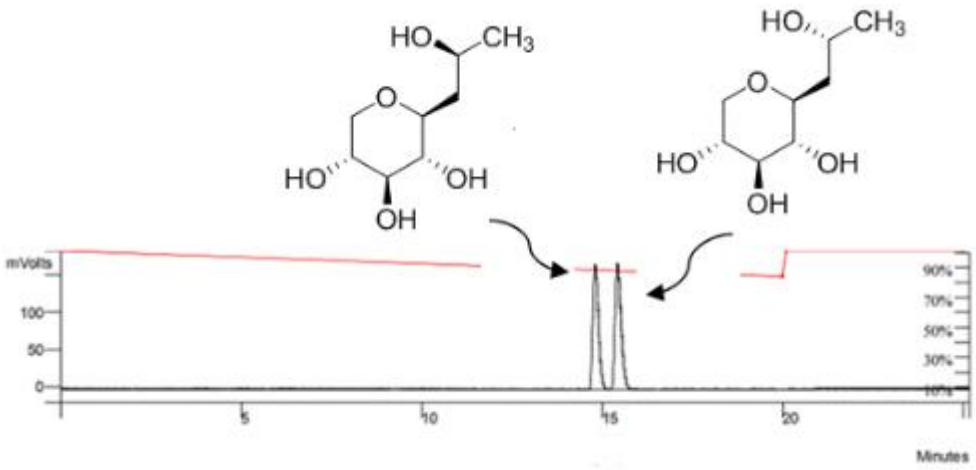
TDS

Product Name: Hydroxypropyl Tetrahydropyrantriol

INCI Name: Hydroxypropyl tetrahydropyrantriol

Structural Formula：



List of Main Ingredients

INCI name	CAS No.	Ratio of ingredient
Hydroxypropyl Tetrahydropyrantriol	439685-79-7	100%

1. Product Brief Introduction

Hydroxypropyl Tetrahydropyrantriol is a xylose derivative via artificial synthesis, consisting of a pair of diastereoisomers. The CAS No. of this product is consistent with that of Hydroxypropyl Tetrahydropyrantriol in international cosmetic raw materials and is widely used in the filed of cosmetics.

2. Product Specification

Product name	Hydroxypropyl Tetrahydropyrantriol		
Product code	BP1619	CAS No.	439685-79-7
Ingredient name	Hydroxypropyl Tetrahydropyrantriol	INCI Name	Hydroxypropyl Tetrahydropyrantriol
Storage condition	Store in an airtight container, in a cool and dry place	Shelf life	2 years

Test Item	**Specifications**	**Test method**
Appearance	Colorless to pale yellow viscous liquid	By observing
Odor	Characteristic odor	By smelling
pH (1% aqueous solution)	5.0-8.0	Cosmetics Safety Technical Specifications 2015
Water content	<5.0%	CP 2025
Assay（HPLC）	≥80%	In-house specification
Purity（HPLC）	≥98%	In-house specification
Heavy metals		
Lead	<10ppm	Cosmetics Safety Technical Specifications 2015
Arsenic	≤1.0ppm	
Mercury	≤1.0ppm	
Microbial test		
TAMC	≤100 cfu/g	Cosmetics Safety Technical Specifications 2015
TYMC	≤10 cfu/g	
Thermotolerant Coliforms	Absent /g	
Staphylococcus aureus	Absent /g	
Pseudomonas aeruginosa	Absent /g	

3. Product Introduction

Promote ECM secretion:

This product is an artificially synthesized xylose derivative. By stimulating the production of glycosaminoglycans (GAGs), it increases the water content of the extracellular matrix. This allows for the thorough filling of the gaps in the extracellular matrix (ECM); at the same time, it functions at the junction of the dermis and epidermis, promoting the synthesis of collagen VII and collagen IV, making the epidermis and dermis connect more closely, restoring the plumpness, firmness and elasticity of the skin. Through tests based on the collagen content of isolated skin tissue and the detection of ECM secretion-related genes in fibroblasts, it has been proven that this product has the effect of promoting ECM secretion.

Repair:

Based on the 3D epidermal model EpiKutis®, compared with the control group, at a concentration of 10mg/mL, the sample Hydroxypropyl Tetrahydropyrantriol significantly reduced Sunburn cells, with an inhibition rate of 81.82%. The contents of fibronectin (FLG) and laminin (LOR) significantly increased, with increase rates of 218.18% and 142.86% respectively. This indicates that the sample can inhibit cell apoptosis, improve tissue morphology, and increase the contents of fibronectin (FLG) and laminin (LOR) at this concentration, demonstrating its repair efficacy.

Moisturizing:

Based on the 3D epidermal model EpiKutis®, compared with the control group, at a concentration of 10mg/mL, the sample Hydroxypropyl Tetrahydropyrantriol significantly increased the skin moisture content, with an increase rate of 244.47%. The contents of hyaluronic acid (HA) and aquaporin 3 (AQP3) also significantly increased, with increase rates of 126.67% and 138.46% respectively. This indicates that the sample can increase the skin moisture content and enhance the contents of hyaluronic acid (HA) and aquaporin 3 (AQP3) at this concentration, demonstrating its moisturizing effect.

4. Product Safety

4.1 This product has no pollution to environment.

4.2 Recommendation of addition amount:

Moisturizer: ≤ 7.6%, Essence: ≤ 16.4%, Facial Lotion: ≤ 80%, Tug-and-Squeeze/Finger-Press Type Facial Mask: ≤ 16.8%. The NOAEL value was determined as 1000mg/kg·bw/d using a 90-day percutaneous repeated dose toxicity test (20% concentration of Hydroxypropyl Tetrahydropyrantriol). After calculation, MoS ≥ 100. In conclusion, under normal, reasonable and foreseeable usage conditions, it will not cause harm to human health.

5. Use

Hydroxypropyl Tetrahydropyrantriol is widely used in the field of skin care products, such as creams, lotions, essences, peel-off/wiping type masks and other occlusive skin care products. Its application purposes include skin conditioner, antioxidant and anti-wrinkle agent.

Recommendation of addition amount: 0.1%∽10.5%

Disclaimer

We will, to the extent possible and within the scope of public disclosure, provide our customers with suggestions on application technical knowledge. However, we do not assume any obligations. Our suggestions are for reference only and do not carry any legal liability. If necessary, customers are advised to conduct necessary testing and verification of the product.