ELHUME – HDO12™ (1,2-Hexanediol)

Technical Datasheet

1. Technical Datasheet

Property	Specification
Physical Properties	
Appearance	Light yellow liquid
Physical Form	Liquid
Molecular Weight (g/mol)	118.17
Chemical Properties	
Water Solubility	Miscible with water
pKa	14.49 ± 0.20 (predicted)
Incompatibilities	Generally stable, but as a glycol, may react with strong oxidizers
Thermal Properties	
Melting Point	45°C
Boiling Point	223-224 °C (lit.)
Flash Point	>230 °F
Thermal Stability	Stable under normal conditions

2. Processing Methods

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Cosmetic cream

Add 1,2-Hexanediol during the cool-down phase to preserve its efficacy as a preservative booster and humectant. It is water-soluble and should be mixed thoroughly to ensure uniform distribution in the cream.

Key Ingredients	Indicative Dosage (% w/w)
Emollients	5-20%
Emulsifiers	2-6%
Humectants (e.g., glycerin)	2-8%
1,2-Hexanediol	0.5-5%
1,2-Pentanediol	0.5-5%
1,2-Octanediol	0.5-2%
Sorbic Acid	0.05-0.2%
Water	40-50%

Hair shampoo

Add 1,2-Hexanediol during the cool-down phase to maintain its preservative-boosting and moisturizing properties. Ensure thorough mixing for even dispersion in the shampoo base.

Key Ingredients	Indicative Dosage (% w/w)
Sodium Lauryl Sulfate (SLS)	12%
Cocamidopropyl Betaine	5%
Glycerin	3%
1,2-Hexanediol	1%
Polyquaternium-7	0.5%
Citric Acid	0.2%
Sodium Chloride	0.3%
Phenoxyethanol	0.8%
Disodium EDTA	0.3%
Deionized Water	70-80%

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Facial cleansers

When adding 1,2-Hexanediol to a facial cleanser, incorporate it into the cool-down phase to preserve its antimicrobial efficacy and prevent degradation. Compatible with most surfactants and active ingredients, it helps improve skin feel without affecting foam. Ensure final pH is 4.5-7 for optimal performance.

Key Ingredients	Indicative Dosage (% w/w)
Deionized Water	60%
Sodium Cocoyl Isethionate	12%
Coco-Glucoside	8%
Glycerin	4%
1,2-Hexanediol	1%
Cocamidopropyl Betaine	5%
Sodium Chloride	1%
Citric Acid	0.2%
Phenoxyethanol	0.8%
Disodium EDTA	0.3%
Fragrance	0.5%

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Sunscreen cream

When adding 1,2-Hexanediol to sunscreen cream, incorporate it during the cooling phase to preserve stability and avoid volatility. Ensure the final pH is 4.5-7 to support both efficacy and formulation stability.

Key Ingredients	Indicative Dosage (% w/w)
Potassium Cetyl Phosphate	2%
C12-15 alkyl benzoate	6%
Caprylic/Capric Triglyceride, Glyceryl Oleate Citrate	6%
Octocrylene	10%
Homosalate	8%
Butyl Methoxydibenzoylmethane	5%
4-Methylbenzylidene Camphor	4%
Simmondsia Chinensis seed oil	5%
Glyceryl Stearate	3%
Apalight SP	5%
Aqua	44.8%
Tetrasodium glutamate diacetate	0.1%
Hydroxyethyl Acrylate and Sodium Acryloyl Dimethyl Taurate Copolymer	0.5%
1-2 Hexanediol	0.5%

3. Dosing by Application

Products	Authorized dosage %
Skin Care	0.5-5%
Hair shampoo	0.5-5%
Other Personal Care	0.5-5%

The information and data contained herein are believed to be accurate but may not be all inclusive and should only be used as a guide. The information is furnished upon the condition that the person receiving it shall make his own determination of the suitability of the product for his particular use and on condition that they assume the risk of the use thereof.

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