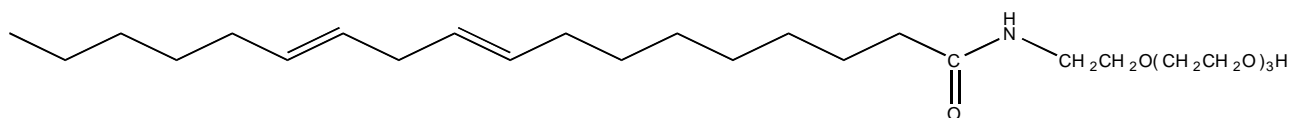


# Masamide<sup>®</sup> R-4



## PEG-4 Rapeseedamide

### Overview

MASAMIDE R-4 is a 90% active PEG-4 rapeseedamide in water. With its unique thickening, foam boosting and stabilizing, and solubilizing properties, R-4 is a superior product for use in wide range of products including: shampoos, mild skin cleaners, soap and shave gels, skin lotions and bath oils.

### Eco-Friendly



With over 35 years Specialty Chemicals manufacturing experience and using the highest quality raw materials, MASAMIDE R-4 is characteristically low color, low odor and reliably consistent batch to batch for the Personal Care Market.

MASAMIDE R-4 is based on the renewable vegetable lipid found in rapeseed oil, making it a uniquely natural compliment for use in Personal Care products as a multi-functional replacement for Cocamide DEA while being diethanolamine, nitrosamine and allergen free, and earns an **Eco-Friendly** label with high biodegradability and low aquatic toxicology. Use MASAMIDE R-4 as a nonionic emulsifier, foam booster and stabilizer, and convenient and efficient thickener.

**Look for PEG-4 Rapeseedamide in Phyto's new Phytocitrus, Phytojoba Hydrating and Phytorhum Fortifying Shampoos.**

**INCI Name: PEG-4 Rapeseedamide, CAS/EINECS#: 85536-23-8/NLP**

### Typical Properties

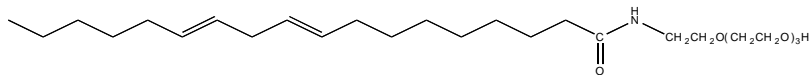
Water solubility .....	Soluble in aqueous surfactant systems
Physical form.....	Viscous liquid
Color (Gardner) .....	4 Maximum
Actives.....	90% Minimum
Viscosity (25°C).....	500cps Maximum
pH (1% aq.) .....	9.5±1.00
Specific gravity (25°C).....	1.00±0.04
Flash point.....	>200°F (PMCC)

### Handling Information

Refer to the Material Safety Data Sheet (MSDS) available from Mason Chemical Company for information on the safe use, handling and disposal of this product.

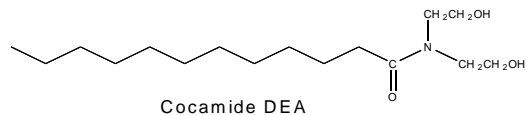
*Masamide and Enhansys are trademarks of Mason Chemical Company.  
www.masonsurfactants.com*

# Masamide® R-4



MASAMIDE R-4 is a 90% active PEG-4 rapeseedamide in water. With its unique thickening, foam boosting and stabilizing, and solubilizing properties, R-4 is a superior product for use in wide range of products including: shampoos, mild skin cleaners, soap and shave gels, skin lotions and bath oils.

As a replacement for Cocamide DEA, MASAMIDE R-4 is an ethoxylated fatty acid monoethanolamide based on the renewable vegetable lipid found in rapeseed oil, aminolysis with monoethanolamine, and the addition of 3-4 moles of ethylene oxide. The increased water solubility from ethoxylation is off-set by the higher alkyl distribution of rapeseed oil, compared with coco range alkyl distribution for performance properties that exceed



Cocamide DEA for improved thickening, emulsifying and skin cleansing.

The exceptional emulsification properties of MASAMIDE R-4 can be economically applied to non-aqueous formulations such as Foaming Bath Oils. With unique skin cleansing performance, R-4 is a superior choice over alkyl polyglucosides and alkyl betaines in Hand Cleaners, Make-Up Removers and other specialized skin cleansing products. Additionally, MASAMIDE R-4 is superior in reducing the irritation profile of ether sulfate containing formulations.

Use Masamide R-4 as a superior thickening agent in both alkyl ether sulfate (AES) and non-AES formulations. When incorporating R-4 into AES formulations, foam is not limited as with Cocamide DEA, and viscosity builds quickly with salt. In non-AES formulations, such as extra-mild skin cleaners, Masamide R-4 is superior to nonionic polymeric thickeners, such as PEG-150 Distearate or PEG-150 Pentaerythrityl Tetrastearate, through ease of use and non-tacky skin feel.

In other applications, Masamide R-4 is an effective emulsifier in O/W systems such as silicones and paraffinic oils, with an HLB of 11. Masamide R-4, when formulated with Bentonite clay, is a very effective suspending and stabilizing agent for high bulk density dispersions, as the formulation below illustrates:

## Skin Soothing Cleanser with Walnut Shell Powder

Ingredients:	Wt.%
Water.....	to 100.0
Sodium laureth-2 sulfate (26%).....	25.0
<b>Akypo RLM-45CA</b> .....	10.0
Walnutshell Powder .....	12.0
Bentonite .....	3.5
Titanium dioxide .....	0.5
<b>Masamide R-4</b> .....	3.5
Citric acid.....	for pH 5.5-6
Fragrance .....	q.s.
Extracts/Oils .....	q.s.
<b>Enhansys M-110</b> .....	0.5
Sodium Chloride.....	for viscosity

### Procedure:

- Charge materials into water with agitation in order listed.
- Adjust pH to 5.5-6 with citric acid.
- Add Fragrance, Extracts/Oils such as Aloe Vera, Chamomile and Jojoba.
- Enhansys M-110 adds moisturization while fortifying the formulation to eliminate the need for preservatives
- Adjust viscosity with sodium chloride.

**Safety/Toxicology/Ecotoxicology Information:** Masamide R-4 is a non-sensitizer, non-mutagenic, a mild eye irritant (OECD 405), skin irritant (OECD 404). With an Eco-Friendly label, is biodegradable: 65% in 28 days (OECD 301D), anaerobic degradability: 81% in 56 days (EPA CG-2050), with acute aquatic toxicology LC<sub>50</sub> (Fish) 96 hours: 13 mg/l (OECD 203), EC<sub>50</sub> (Daphnia) 48 hours: 7 mg/l (OECD 202). See Material Safety Data Sheet for additional information.