



PETRONAS



Ethonas NP
Nonylphenol
Ethoxylates

Overview of PETRONAS Chemicals Group Berhad

PETRONAS Chemicals Group Berhad (PCG) is the leading integrated chemicals producer in Malaysia and one of the largest in Southeast Asia. It operates **19 world-class manufacturing sites** in Malaysia, Asia-Pacific, Europe and North America. With a total combined production capacity of **15.4 million metric tons per annum (mtpa)**, it is involved primarily in **manufacturing, marketing and selling a diversified range of chemical products**, including olefins, polymers, fertilisers, methanol, other basic chemicals, derivative products and specialty chemicals.

Listed on Bursa Malaysia with more than three decades of experience in the chemicals industry, PCG is established as part of the PETRONAS Group to maximise value from Malaysia's natural gas resources.

PCG is committed to ensuring that its business practices are in line with globally recognised standards for Economic, Environment, Social & Governance (EESG) practices. It is currently listed in the FTSE4Good Bursa Malaysia (F4GBM) Index and the Dow Jones Sustainability™ World Index.

PETRONAS Chemicals Derivatives Sdn. Bhd. (PC DSB)

Produces Nonylphenol Ethoxylates in Kertih, Terengganu.



6 030-05/2013



ISO 9001:2015, SO 14001:2015



6 ISO 45001:2018

Ethonas NP

Nonylphenol Ethoxylates

has some of the most widely used members of the larger alkylphenol family of nonionic surfactant.

PCG offers Nonylphenol Ethoxylates in various grades.

Characteristics and Benefits

Ethonas NP (Nonylphenol) is made up of branched nonylphenol with ethylene oxide, which plays a big role to its performance as a surfactant.

Faster Wetting Time

Ease of surfactant to wet a surface which is favourable for detergent application.

Superior Detergency

Exceptional detergency indicates superior cleaning performance.

Lower Cloud Point

Stable emulsion at lower temperature.

Alkyl-Phenol Chemistry

Improved water solubility with narrower gelling range.

Chemically Stable

Stable in cleaning formulation which needs the extra power of acids and is a caustic agent.

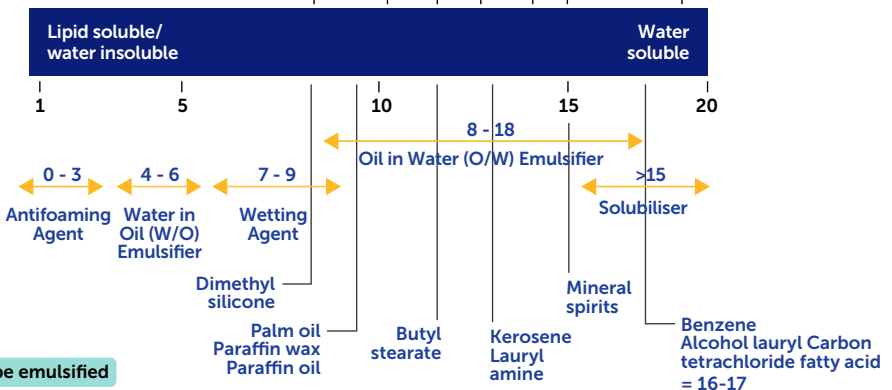
Hydrophilic - Lipophilic Balance (HLB)

Matching the HLB values (surfactant and component to be emulsified) is key in formulating the finished product.

Finished Product









Ethonas NP

NP-4 =8.9 NP-6 =10.9 NP-8 =12.6 NP-9 =12.9 NP-10=13.2 NP-15 =15.0 NP-40 (70%) = 17.8



Component to be emulsified

Applications

Industry	Function	Recommended Ethonas NP Series					
		NP-4	NP-6	NP-7.5	NP-8	NP-9	NP-10
 Cleaners & degreasers	Emulsifiers, cleaning & dispersant	✓	✓			✓	
 Adhesives & agrochemicals	Wetting, emulsifier & stabiliser		✓	✓			
 Textile processing	Detergency, wetting			✓	✓		✓
 Metal working fluid	Emulsifier, wetting				✓	✓	✓
 Dry cleaning	Low foam, stabiliser	✓	✓				
 Floor polish stripper	Cleaning, wetting				✓		
 Paints & coatings	Paints & coatings					✓	✓
 Polyurethane	Emulsifier						✓

Product Properties

Components	Unit	Ethonas NP					
		NP-4	NP-6	NP-7.5	NP-8	NP-9	NP-10
Average moles of EO	-	4	6	7.5	8	9	10
Molecular weight	-	380-420	467-492	-	-	-	-
Water	wt%	0.5 max	0.2 max	0.3 max	0.3 max	0.3 max	0.3 max
Colour	PtCo	100 max	100 max	75 max	50 max	70 max	50 max
pH (1% solution in 10:6 IPA/water) at 25°C v/v	-	5.0-8.0	5.0-8.0	5.0-8.0	5.0-8.0	5.0-8.0	5.0-8.0
Cloud point (1% aq)	°C	Insoluble	-	29-33	41-46	52-56	60-65
Cloud point (1% Propanol/Water)	°C	-	68-90	-	-	-	-



For more information on PCG products



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