

# ACID SCAVANGERS SYNTHETIC HYDROTALCITE -V



## Introduction

Synthetic Hydrotalcite is a layered double hydroxide of general formula  $\text{Mg}_6\text{Al}_2\text{CO}_3(\text{OH})_{16}\cdot 4(\text{H}_2\text{O})$ , ( Magnesium Aluminium Hydroxide Carbonate) whose name is derived from its resemblance with talc and its high water content.

## Applications

- 1 Used in pharmaceutical industry, as an antacid agent.
- 2 Acid scavenger in PVC and Polyolefins.
- 3 Acid scavenger when using halogen-based flame retardants in plastic compounding.

## Benefits

- 1 Safe (Approved for food contact applications)
- 2 Non-Kosher/Non - Halal requirement.
- 3 Efficient (Applications require only small dosages)
- 4 Polymer yellowing is suppressed.
- 5 No problems like stearic vapour problem.
- 6 Low water carryover.
- 7 Synthetic Hydrotalcite irreversibly adsorbs acidic catalytic residues.
- 8 Synthetic Hydrotalcite prevent damaging side effects, such as corrosion of processing equipment and degradation of the polymer.
- 9 Very nominal change in mechanical strength of the end product.



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## 1.0 Specifications

Test	Specification	Test Method
Appearance	Fine white Powder	Visual
Untapped Density [g/cc]	0.2-0.3	As is in graduated cylinder
Specific Surface [m <sup>2</sup> /g]	5 - 15	BET
pH(1 gm / 50 ml (Ethanol:Water 1:1))	8.5 - 9.5	pH Meter
Oil Absorption [ml/100g]	35 - 45	By Spatula Rub-out
Elemental Analysis	Complies with standards	by XRF analysis
Loss on Drying	< 1 %	Oven Drying Method at 105 degrees C for 4 hours
Al <sub>2</sub> O <sub>3</sub> (%)	17 - 23	by XRF analysis
MgO (%)	30 - 35	by XRF analysis
Particle Size	D50<0.6 µm D90<1.0 µm D100<5.0 µm	PSA analyser (wet method with dispersant)

## 2.0 Product FDA Status

Synthetic Hydrotalcite is approved for use in food contact polymer as per the following chapter headings.

Title	21 - Food And Drugs
Chapter	I - Food and Drugs Administration, Department Of Health And Human Services (Continued)
Sub Chapter	B - Food for human consumption
Part	177 - Indirect Food Additives : Polymers
Sub Part	B - Substances for Use as Basic Components of Single and Repeated Use Food Contact Surfaces.
Section	177.1520 - Olefin polymers

## 3.0 Some Known Formulation of Synthetic hydrotalcite

PP H030 GP/2; PP H031 BF/2; PP H260 FF/2; PP H263

Ingradients	% Composition
Polypropylene	≥ 99.8
Synthetic hydrotalcite (v)	< 0.025
Calcium bis(monoethyl(3,5-di-tert-butyl-4-hydroxybenzyl)phosphonate): 1:1 with polyethylene wax	< 0.1
Calcium distearate	0.035
Pentaerythritol tetrakis(3,5-di-tert-butyl-4-hydroxyhydrocinnamate)	0.13
Tris(2,4-di-tert-butylphenyl)phosphite	0.13

030GY557 PVC CC HMF

Ingradients	% Composition
Synthetic hydrotalcite (v)	1-5
Calcium carbonate	1-5
Titanium dioxide	10-30
Zinc stearate	-

## Polybond® 3000

Ingradients	% Composition
Polypropylene	-
Bis(2,4-di-tert-butylphenyl) pentaerythritol diphosphite	-
Pentaerythritol tetrakis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate)	-
Synthetic hydrotalcite (v)	-

## CLC-120

Ingradients	% Composition
Synthetic hydrotalcite (v)	>96
Stearic acid	<4

## PERFLUOROELASTOMER COMPOUND

Ingradients	% Composition
Triallyl isocyanurate	0 - 2.7
2,5-bis(t-butylperoxy)-2,5-dimethylhexane	0-1.0
Silicone dioxide	0-10
Titanium dioxide	0-15
Barium sulfate (filler)	0-8
Synthetic amorphous silica	0-2.0
Zinc oxide	0-5
Magnesium oxide	0-4
Calcium oxide / soda lime	0-1
Synthetic hydrotalcite (v)	0-1
Carbon black (filler)	0-27.8

## NE90-Z0N-0H BLACK 050104 SLOW MB

Ingradients	% Composition
Synthetic hydrotalcite (v)	-

## 4.0 Packing Details

		Bag/Drum	Per Pallet	Per Container
1) Bulk		15kg HDPE Bag	20g Bags	10mt
2)Small	Solid Bag/Drum	Drum/Box	-	-
		Liquid - Bottle/Carboy	25kg aluminium Bottle	-
3)Micronized		10kg HDPE Bag	20 Bag	6mt

## 5.0 Product Shelf Life

Chemically Synthetic hydrotalcite has an active shelf life of 3 years from date of Manufacture. Kindly do not stack beyond fix the standard packing.



Trigon Chemicals Pvt.Ltd.



Polymer Add Pte.Ltd.



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DR. J. PHARMACHEM PVT. LTD.

722/AB/15 "Nirmal", Laxmi Park Colony, Navi Peth, Pune 411030. India.

**Phone:** +91 9922922875 , +91-20-24530071 / 24530110

**Email:** aditya@trigon-chemie.com **Website:** www.trigon-chemie.com

#### Singapore

77 A, Boat Quay, Singapore 049865,

**Phone:** +6563272490

**Email:** contact@polymeradd.sg **Website:** www.polymeradd.sg

#### Thailand

88/31 Baan Klang Suan Moo.2, T.Takiantia A.Banglamung, Chonburi 20150, Thailand.

**Phone:** +66979238318 / +66979248318

**Email:** contact@polymeradd.sg **Website:** www.polymeradd.sg

#### Philippines

Philippines Representative Office

**Phone:** +63-9956581136

**Email:** iris@polymeradd.sg **Website:** www.polymeradd.sg

722/AB/15 "Nirmal", Laxmi Park Colony, Navi Peth, Pune 411030. India.

**Phone:** +91 9922922875 , +91-20-24530071 / 24530110

**Email:** sales@jpharmachem.com **Website:** www.jpharmachem.com