

白腊规格

# TYPICAL PROPERTIES

## ■ Fully Refined Paraffin Wax

Paraffin wax is a mixture consisting mostly of straight chain hydrocarbons, with about 20-35 carbons in the molecule and a molecular weight of about 300-500. General properties are:

- Hardness is such that it can be scarred with nails
- Extremely low volatility
- Melts at about 40-70°C
- Viscosity in the molten state is extremely low
- Burns clean without emitting harmful gas
- Great moisture proofing, water proofing and scent-preserving
- Latent heat of fusion is high enough to use it as heat storage materials
- Tasteless and odorless
- Biodegradable

5

Item	Grade	155/160°F ASTM	150/155°F ASTM	140/145°F ASTM	EP 140/145°F ASTM	135/140°F ASTM	130/135°F ASTM	125/130°F ASTM	120/125°F ASTM	115/120°F ASTM
Melting Point (ASTM D27)	°C (°F)	69.3 (157)	66.5 (152)	61.3 (142)	61.7 (143)	58.7 (138)	56.7 (134)	52.6 (127)	49.4 (121)	47.2 (117)
Oil Content (ASTM D721)	mass%	0.2	0.2	0.2	0.2	0.3	0.3	0.3	0.3	0.5
Color Saybolt (ASTM D155)		+30	+30	+30	+30	+30	+30	+30	+30	+30
Penetration (ASTM D1321)	0.1mm at 25°C at 35°C	13 18	14 19	11 17	12 19	12 20	13 18	17	20	30
Specific Gravity	g/cm <sup>3</sup> at 70°C	0.783 at 30°C	0.779 at 30°C	0.777	0.778	0.775	0.774	0.771	0.769	0.769
Odor & Taste		Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Flash Point (C.O.C.) (ASTM D92)	°C	264	261	236	235	234	220	212	212	202
Ultraviolet Absorbance	FDA 172,836 FDA 176,3710	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass	Pass

## APPLICATION:

Hotmelt Adhesives	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>						
Paper Cups			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Plastics Lubricants	<input type="radio"/>	<input type="radio"/>								
Paper Converting	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Rubber Antiozonant	<input type="radio"/>	<input type="radio"/>		<input type="radio"/>	<input type="radio"/>					
Pollah			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>					
Cosmetic & Pharmaceutical	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			<input type="radio"/>			
Candles			<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>				
Water-Proof Corrugated Paperboard					<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			
Chlorinated Paraffin							<input type="radio"/>	<input type="radio"/>		
Matches							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Rust Preventive								<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Plywood							<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Textiles					<input type="radio"/>	<input type="radio"/>	<input type="radio"/>			

# 白腊規格表

## 2

### 当社製品の特性

#### A. パラフィンワックス

パラフィンワックスの製造で最も重要なことはワックス分の結晶化の方法とその分離です。当社はこの工程に他に例をみない多段式プレス発汗法と近代的な溶剤脱油法を組み合わせた

白の製造法で多品種にわたる製品を製造し、世界に誇るパリエーションを有しております。

#### 標準品

標準品は融点の違いにより次の製品があります。

#### ▼代表特性

品名	融点		油分 mass%	針入度		純度 w/w(100%)	色相 セーボルト	密度g/cm <sup>3</sup>		引火点 °C	平均分子量 (ガスクロマト)
	°C	(°F)		25°C	35°C			25°C	30°C		
155	69	(156)	0.2	15	20	6.4	+30	0.927	0.783 (25°C)	262	472
150	66	(151)	0.2	14	20	5.6	+30	0.925	0.784	258	458
140	61	(142)	0.2	11	17	4.1	+30	0.920	0.776	242	404
135	58	(136)	0.3	13	21	3.9	+30	0.911	0.775	234	389
130	55	(131)	0.3	14	32	3.8	+30	0.908	0.772	228	373
125	53	(127)	0.3	17	59	3.3	+30	0.902	0.771	222	361
120	50	(122)	0.3	23	83	3.1	+30	0.901	0.769	212	344
115	47	(117)	0.5	30	90	3.0	+30	0.900	0.768	208	338

\*以上の製品は、日本ワックス工業会の自主規格基準に適合しております。

#### ▼主な用途

ローソク・加工紙・耐水段ボール・ゴム老防剤・ホットメルト接着剤・塩素化パラフィン・繊維加工助剤・インキ・マッチ・化粧品・食品模型・蓄熱材・その他。

#### 特製品

標準品の製造法を変えて製造するパラフィンワックスを特製品といい、HNP、SP、EMWの3シリーズがあります。

#### a. HNPシリーズ

このシリーズは高純度精製パラフィンワックスのことで従来のパラフィンワックスに比較して

- ①融点が高い。
  - ②直鎖状炭化水素の比率が高いため硬くて耐摩耗性に優れている。
  - ③炭素数分布が狭いため感温性に優れている。
- 等の特性があります。

#### ▼代表特性

品名	融点		油分 mass%	針入度		純度 w/w(100%)	色相 セーボルト	密度g/cm <sup>3</sup>		引火点 °C	平均分子量 (ガスクロマト)
	°C	(°F)		25°C	35°C			25°C	30°C		
HNP-3	64	(147)	0.1	6	10	5.3	+30	0.924	0.774	254	512
HNP-5	62	(144)	0.1	4	6	7.6	+30	0.923	0.773	240	427
HNP-9	75	(167)	0.1	7	10	6.9	+30	0.926	0.780	304	518
HNP-10	75	(167)	0.1	6	10	7.9	+30	0.926	0.782	304	592
HNP-11	68	(154)	0.1	7	13	4.3	+30	0.925	0.774	260	447
HNP-12	67	(152)	0.1	5	10	6.8	+30	0.925	0.776	260	524
HNP-14G	63	(156)	0.1	4	7	10.0	+26	0.922	0.783	260	489

#### ▼主な用途

熱転写インキ・ホットメルト接着剤・蓄熱紙・トナー・農薬・肥料・その他。

白腊檢驗報告



NIPPON SEIRO CO., LTD.

NO. \_\_\_\_\_

MANUFACTURERS: PARAFFIN WAX MICROCRYSTALLINE WAX  
NO. 22-15, SHINKAWA 1-CHOME, CHUO-KU TOKYO 104-0033, JAPAN  
TEL: TOKYO (03) 3523-3536 TELEFAX: (03) 3523-3306

1274100

TO WHOM IT MAY CONCERN:

GENTLEMEN:

QUALITY CERTIFICATE

=====

COMMODITY : PARAFFIN WAX-FULLY REFINED \*\*\*  
QUANTITY : 1,344 KGS  
NO. OF PACKAGING : 2 PALLETS  
SHIPPING DATE : DEC.15,2007  
VESSEL : HALCYON  
LOT NO. : 0032L07  
MELTING POINT °C : 61.6  
(ASTM D87) (°F) ( 142.8 )  
OIL CONTENT MASS% : 0.19  
(ASTM D721)  
PENETRATION : 11 AT 25°C  
(ASTM D1321)  
COLOR : +30  
(ASTM D156)  
U.V. ABSORBANCE : PASS  
(FDA 178.3710(B))

ORDER NO : NS-089

REMARKS : \*\*\* MELTING POINT: 140/145F ASTM

NIPPON SEIRO CO., LTD.

1274100

# 硬脂酸(植物性)



**PALM-OLEO SDN.BHD.** (196888-V)  
(A subsidiary of Kuala Lumpur Kepong Berhad)

Lot 1245, Kundang Industrial Estate,  
48020 Rawang, Selangor Darul Ehsan, Malaysia.  
Tel No. 603-80344800 Fax No. 603-80341279/2340

## MATERIAL SAFETY DATA SHEET

06 MAR 2008

### 1. IDENTIFICATION OF THE SUBSTANCE/ PREPARATION COMPANY

#### Identification of the product

Product Name : PALMERA B1801 TRIPLE PRESSED STEARIC ACID BEAD  
Trade Name : Palmira B1800, Palmira B1801, Palmira B1802, Palmira B1803,  
Palmira B1810, Palmira A7018, Palmira A6518, Palmira A5518,  
Palmira A4018, Palmira A6018, Palmira A5518  
Synonyms : Not applicable  
LC NO : 8AQQH2001787-567

#### Company / Undertaking Identification

Manufacturer : Palm-Oleo Sdn. Bhd.  
Address : Lot 1245 Kundang Industrial Estate,  
48020 Rawang,  
Selangor Darul Ehsan,  
Malaysia.  
Web page : [www.kikoleo.com.my](http://www.kikoleo.com.my)

### 2. COMPOSITION / INFORMATION ON INGREDIENTS

Composition	Chemical Formula	CAS No.	EC No.	EC Symbol	EC R-phrase
Hexadecanoic Acid	$C_{16}H_{32}O_2$ / $CH_3(CH_2)_{14}COOH$	67701-03-5	266-928-5	Not Applicable	Not Applicable
Octadecanoic Acid	$C_{18}H_{36}O_2$ / $CH_3(CH_2)_{16}COOH$				

### 3. HAZARDS IDENTIFICATION

Special hazards for man and environment : None.

### 4. FIRST AID MEASURES

After skin contact : Remove contaminated clothing, flush skin with water or shower, take to a doctor if necessary.  
After eye contact : Flush with water, take to a doctor if necessary.  
After inhalation : Not relevant.  
After ingestion : Rinse mouth, drink plenty of water, see physician. Do not give anything by mouth to an unconscious person.

## MATERIAL SAFETY DATA SHEET

### 5. FIRE FIGHTING MEASURES

Extinguisher Media	Dry powder, carbon dioxide or foam, water spray jet.
Special Hazards	Liquid product may have temperature exceeding 50 °C

### 6. ACCIDENTAL RELEASE MEASURES

Personal precautions	Avoid contact with skin and eyes.
Environment precautions	Do not allow to flow into drainage system.
Methods for cleaning up	Collect leakage in sealable containers, soak up with sand or other inert absorbent and remove to safe place. Wash site with sodium bicarbonate solution or soda ash. Can also allow spillage to solidify, then shovel into containers. Clean up area immediately.

### 7. HANDLING AND STORAGE

Handling	Avoid open flames. Use gloves and wear goggles when handling. Always work safely around open hatches on bulk tanks. The low density makes flotation difficult for immersed person.
Storage	Keep in a cool and dry place, avoid extreme heat and cold. Store in clean, dry preferably stainless steel vessels. In bulk, store at about 5-10 °C above melting point or ambient. Temperature higher than necessary degrades quality at rates dependent on time and temperature of exposure

### 8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Exposure Limit	Not applicable
Personal Protective Equipment	
Hand / Skin protection	Use rubber gloves
Eyes protection	Wear approved safety goggles and face shield.
Industry Hygiene	Normal standard of industrial hygiene be observed.

### 9. PHYSICAL & CHEMICAL PROPERTIES

Appearance	Waxy, white crystalline solids
Odour	Slight bland like odour
Solubility	Soluble in ethanol, ether and most organic solvent Insoluble in water (20 Deg C)
Boiling Point, at 760 mm Hg (°C)	> 300
Melting Point (°C)	55-60
Flash Point (°C) (Pensky-Kartens Closed cup)	> 200
Auto-ignition (°C)	> 250
Density, at 75 °C (g/ml)	0.85
Vapour Pressure, mm of Hg at 131 °C	< 1.0
Viscosity, mPa.s at 65 °C	8.04

# MATERIAL SAFETY DATA SHEET

## 10. STABILITY & REACTIVITY

Conditions to be avoided	Avoid direct fire.
Materials to be avoided	None known if used for its intended purpose.
Decomposition products	None known if used for its intended purpose.

## 11. TOXICOLOGICAL INFORMATION

Toxicity Data	LD 50 (oral, rat) = > 10000 mg/kg
Carcinogenicity	None
Reproductive Effect	No harmful effects expected
Effect of Overexposure	No harmful effects expected
Chronic Effect	No harmful effects expected
Target Organs	Not Applicable
Medical conditions generally aggravated by exposure	No special requirements

## 12. ECOLOGICAL INFORMATION

Ecotoxicity	Acute fish toxicity: LC 50 > 100 mg product/liter Acute bacteria toxicity: EC 50 > 100 mg product/liter
Biodegradability	Biodegradable

## 13. DISPOSAL CONSIDERATIONS

Disposal method is in accordance with all applicable national environment laws and regulations.

## 14. TRANSPORT INFORMATION

Not a hazardous material according to RID/ADR, GGVS/GGVE, ADN, IMDG, ICAO-TI / IATA-DGR.

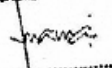
## 15. REGULATORY INFORMATION

All components of these products are listed on the following inventories:  
USA (TSCA), Canada (DSL), Europe (EINECS/ELINCS) and Australia (AICS)

## 16. OTHER INFORMATION

*Disclaimer: The information provided is based upon our best knowledge at the time that this safety data sheet was published. The information is believed to be accurate and is given in all good faith. The references to the legislative, regulatory and codes of practice documents must not be considered as exhaustive. Physical and chemical data contained in this MSDS are provided only for use as a guide in assessing the hazardous nature of the material. It does not represent a guarantee of the properties of the product. For further additional information you may contact us at the following email address: [enquiry@kikoleo.com.my](mailto:enquiry@kikoleo.com.my) or [www.kikoleo.com.my](http://www.kikoleo.com.my).*

**PALM-OLEO SDN. BHD.**

  
ANBAZHAGAN  
Lab Supervisor

Page No.: 3 of 3

# sonneborn

REFINED PRODUCTS

Issued: 6/30/2008

## Specifications for **CARNATION® White Mineral Oil**

<u>PROPERTIES GUARANTEED</u>	<u>TEST METHOD</u>	<u>LIMITS</u>
Specific Gravity @ 25°C/25°C	ASTM D4052	0.829/0.859
Kin. Viscosity @ 40°C, mm <sup>2</sup> /s	ASTM D445	10.8/13.6
Acidity	USP (current revision)	PASS
Readily Carbonizable Substances	USP (current revision)	PASS
Solid Paraffin	USP (current revision)	PASS
Limit Of Polycyclic Aromatic Hydrocarbons	USP (current revision)	PASS
Limit Of Sulfur Compounds	USP (current revision)	PASS
Residual Solvents, Reportable Quantity	USP 467	None
Odor	LATM 092	NONE
Color, Saybolt	ASTM D156	30 Min.
Breakdown Time, Minutes	LATM 017	45 Min.
Appearance	LATM 127	BRIGHT & CLEAR

This product is a Light Mineral Oil NF meeting requirements for National Formulary (current revision) and Food and Drug Administration requirements as per 21 CFR 172.878 and 21 CFR 178.3620(a).

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The information contained herein is correct to the best of our knowledge. Your attention is directed to the pertinent Material Safety Data Sheets for the products mentioned herein. All sales are subject to Sonneborn's standard terms and conditions of sale, copies of which are available upon request and which are part of Sonneborn's invoices and/or order acknowledgments. Except as expressly provided in Sonneborn's standard terms and conditions of sale, no warranty, express or implied, including warranty of merchantability or fitness for particular purpose, is made with respect to the products described herein. Nothing contained herein shall constitute permission or recommendation to practice any invention covered by a patent without a license from the owner of the patent.

Sonneborn, Inc.  
575 Corporate Drive  
Suite 415  
Manwah, NJ 07430

Technical Service 877.541.7144  
Customer Service 877.948.2688  
Fax 724.766.9386  
www.sonneborn.com

## MATERIAL SAFETY DATA SHEET

<b>1. Trade Name</b> : PRE-7070-P
<b>2. Chemical Name</b> : Glycerine Monostearate CAS No. : 31566 - 31 - 1
<b>3. Manufacturer</b> : 6-2 jesan-ri, kangnea-myun, chungwon-kun, choungbuk, korea IL SHIN WELLS CO., LDT TEL : (043)231-8910-2 Fax No. : (043)231-9666
<b>4. Description</b> : PRE - 7070 - P consist of monoester of fatty acid with glycerine
<b>5. Physical and Chemical Properties</b>  Appearance : White powder Odor : Bland Specific Gravity : 0.913 ( at 80°C) Boiling Point : 259°C ( at 10mmHg) Fire Point : 245°C Flash Point : 215°C Solubility : insoluble in water , soluble in oil
<b>6. Hazards</b> PRE - 7070 - P is not classified as dangerous material according to the US- or EEC regulation
<b>7. Fire Hazard and Fighting</b> Combustible but presents no special hazard Treat as an oil fire : Do not use water jet. Extinguish with carbon dioxide, dry powder or foam.
<b>8. Physiological and Health Hazard Data</b> Oral toxicity : non-toxic - food additive Skin irritation : not expected to be an irritant. Eye irritation : not expected to be an irritant.



**9. Emergency and First Aid Data**

Eye : Flush eyes with pure water to remove

Skin : Wash skin soap and water

**10. Stability and Reactivity**

Thermal Decomposition : Stable under normal condition of use  
Decompose to fatty acid and glycerol if heated to > 170°C  
for long periods

Hazardous Reactions : None under normal condition of use

**11. Personal Protection Information**

Respiratory Protection

Ventilation : Minimize dust levels

Protective Gloves : Wear chemical resistant gloves

Eye Protection : Wear chemical splash goggles

Other Protection : Wear chemical resistant apron and footwear

**12. Environmental Precautions**

Collect spillages and wash the soiled area with water and soap or detergent.

Dispose of waste material as domestic refuse.

PRE - 7070 - P will be completely degraded in microbial waste treatment systems.

**13. Transportation**

PRE - 7070 - P is not considered dangerous in any transportation.

**14. Storage and Handling**

Store under normal, cool dry warehouse condition away from open flames, sparks,  
heat or strong oxidants.

Seal container when not in use.

Material Safety Data Sheet

MSDS:9000

1/4

1. CHEMICAL PRODUCT AND COMPANY IDENTIFICATIONProduct Name: **YOSHINOX BHT**2. COMPOSITION, INFORMATION ON INGREDIENTS

Chemical Name	CAS No.	Chemical formula	MW.
2,6-Di-t-butyl-4-cresol	128-37-0	C <sub>15</sub> H <sub>24</sub> O	220.39
	EINECS No.		
	2048814		
	TSCA Status: On TSCA Inventory		

3. HAZARD IDENTIFICATION

Fire &amp; Explosion: Combustible solid. An explosion by static electricity may occur.

Hazard: Acute oral toxicity is low. May cause irritation to eyes. May cause slight irritation to skin.

UN Classification: *Not regulated.*

Substances to be reported according to the \*PRTR Law: None

\*PRTR: Pollutant Release and Transfer Registry

Substances to be reported according to Sub-Section 2 of Section 57 of the \*ISHL: 2,6-Di-t-butyl-4-cresol (100 wt.%)

\*ISHL: Industrial Safety and Health Law

4. FIRST AID MEASURES

Skin: Remove contaminated clothing and immediately wash off the site of contact with an abundance of water and neutral soap. Consult a physician if necessary.

Eyes: Immediately flush with clean running water for at least 15 minutes and consult an ophthalmologist. When washing the eyes, hold the eyelids wide open with fingers and wash well in such a way that water will reach every nook and corner of the eyeballs and eyelids.

Inhalation: Remove the patient to fresh air and keep him/her at rest. If necessary, call a physician. If the patient ceases breathing, practice artificial respiration on him/her. If the patient has difficulty in breathing, give oxygen inhalation to him/her.

Ingestion: Induce vomiting. Call a physician. If the patient is unconscious, never give fluids or induce vomiting.

5. FIRE-FIGHTING MEASURES

Fire-fighting instructions: Firstly put out fire with extinguish media from an upwind position.

Extinguishing Media: Water spray, dry chemical, carbon dioxide, alcohol foam.

6. ACCIDENTAL RELEASE MEASURES

In case of spills, immediately scoop into suitable containers.

## YOSHINOX BHT, YOSHINOX BHT-P

MSDS: 9000

2/4

7. HANDLING & STORAGE

- Handling:** Avoid eye, skin and clothing contact.  
 Wear suitable protective clothing and equipment.  
 The material tends to accumulate static charges which may cause an electrical spark (ignition source).
- Storage:** Store at a dark place at room temperature away from the direct sunlight.  
 Eliminate source of ignition.

8. EXPOSURE CONTROLS/PERSONAL PROTECTION

## Threshold Limit Value

\*JAIH (1996 Edition): Class III Dust 8mg/m<sup>3</sup> (total dust)ACGIH (1996 Edition): TLV-TWA 10mg/m<sup>3</sup>

\*JAIH: The Japan Association of Industrial Health

- Personal Protection:** Provide general or local exhaust ventilation, or enclose the relevant equipment and machines to prevent air contamination in a workshop.  
 Wear dust-proof mask, protective goggles, rubber gloves, protective clothing and protective boots.

9. PHYSICAL & CHEMICAL PROPERTIES

- Appearance and Odor:** White crystals or powder. Odorless or a slightly characteristic odor
- |                                 |                                  |
|---------------------------------|----------------------------------|
| Specific Gravity: 1.048 (20°C)  | Boiling Point: 265°C             |
| Melting Point: 69 to 72°C       | Bulk Density: 0.63               |
| Vapor Pressure: 26.6hPa (147°C) | Flash Point: 127°C(C.O.C.)       |
| Ignition Point: 359°C           | Heat of Combustion: 40614 J/g *4 |
- Explosion Limits:** Upper: 40g/m<sup>3</sup> (100 to 280-mesh product), Lower: 3000g (crystalline product)
- Solubility:** Insoluble in water. Readily soluble in methanol, ethanol and isopropanol.

10. STABILITY & REACTIVITY

Stable under normal handling conditions.

11. TOXICOLOGICAL INFORMATION

- Skin Corrosiveness:** No relevant information available.
- Irritation:** Skin (humans) 500mg/48H "Mild irritation" \*1  
 Skin (rabbits) 500mg/48H "Moderate irritation" \*1  
 Eye (rabbits) 100mg/24H "Severe irritation" \*1
- Sensitization:** No relevant information available.
- Acute toxicity:** Oral LD<sub>50</sub> in rats: > 890mg/kg \*1  
 Oral LD<sub>50</sub> in mice: > 1040mg/kg \*5
- Subacute Toxicity:** In the experiment where BHT was mixed into foods at the concentrations of 0.05, 0.15, 0.45 and 1.35% each, then fed to rats of both sexes for 110 days, the 1.35% group showed a decrease in the body weight and the other groups showed no significant differences from the control group. In the 1.35% group, the body weight depression went in parallel with the decrease in the food consumption, and the water intake tended to increase.  
 In the maximal dosed group, rough hair coat and decreased spontaneous motor activity were observed, and death occurred in three males out of ten and seven females out

the Ministry of Economy, Trade and Industry (published by the Chemicals Inspection & Testing Institute, Japan)

- \*4: The Company's own testing data
- \*5: Hazardous substances Data Bank (HSDB)
- \*6: NIH Publication No. 79-1706 (Reference is made to the Manual on the Japanese Standards of Food Additives, 6<sup>th</sup> Edition)
- \*7: The Annual Report 27-2, 28 (1976) by the Tokyo Metropolitan Research Laboratory of Public Health (Reference is made to the Manual on the Japanese Standards of Food additives, 6<sup>th</sup> Edition)
- \*8: The Annual Report 22, 231 (1972) by the Tokyo Metropolitan Research Laboratory of Public Health (Reference is made to the Manual on the Japanese Standards of Food additives, 6<sup>th</sup> Edition)

Registry Number with the Japanese Hygienic Olefin and Styrene Plastics Association: [B]NL-0024  
Registry Number with the Japan Hygienic PVC Association (JHPA): M-0177

This information set forth herein has been gathered from standard reference materials and/or API CORPORATION's test data and is to the best knowledge and belief of API CORPORATION accurate and reliable. Such information is offered solely for your consideration, investigation and verification, and it is not suggested or guaranteed that the hazard precautions or procedures mentioned are the only ones which exist. API CORPORATION makes no warranties, express or implied, with respect to the use of such information or the use of the specific material identified herein in combination with any other material or process, and assumes no responsibility therefor.

#### Revision Summary:

- (1) January 26, 1998: Revised the value of heat of combustion from 9670cal/g to 40614J/g by using SI unit.  
Added new data relating to Subacute Toxicity, Chronic Toxicity and Mutagenicity.  
Revised the First Aid Measure by changing the words from "Immediately consult a physician" to "Consult a physician if necessary."
- (2) April 1, 2000: Changed the Company's address in accordance with its relocation as from the same date.  
Added the PRTR Law-related description in accordance with the enactment of the law on the same day.

**YOSHINOX BHT, YOSHINOX BHT-P**

MSDS: 9000

3/4

of ten in worsened changes in the general conditions. Other changes were the tendencies of decreases in the hematocrit and hemoglobin concentrations, increases in the weights of the liver and kidney, an increase in the relative weight of the renal gland, a degeneration of the renal tubular epithelium, an expansion of the renal tubule, and fatty changes of liver cells in the lobular zone. \*8

Chronic Toxicity: As a result of the histopathological researches into the rats which had been reared for two years by feeding foods containing 0.005, 0.02 and 0.32% each of BHT, in all groups the rats showed no significant disorder in their tissues and organs, and tumors were not found. \*7

Carcinogenicity: Not observed. \*6

Mutagenicity: BHT assumedly does not possess the risk of causing mutation or genetic toxicity in humans as it lacks abilities of inducing point mutation and chromosomal breakage. \*2

Reproductive Effects: No relevant information available.

Teratogenicity: No relevant information available.

12. ECOLOGICAL INFORMATION

Biodegradation: 4.5% by BOD\*3

Bioconcentration: Bioconcentration Factor (BCF) by *Cyprinus carpio* L.: 230 to 2500 times (Concentration: 50  $\mu$ g/L) \*3

Bioconcentration Factor (BCF) by *Cyprinus carpio* L.: 230 to 2500 times (Concentration: 5  $\mu$ g/L)

Fish Toxicity:  $LC_{50}$  = 5.0 mg/L (48H) in scarlet killfish\*3

13 DISPOSAL CONSIDERATION

Burn gradually in an incinerator with adequate care.

Follow all relevant regulations for disposal.

Do not dump this material into sewers, on the ground or into any body of water.

14. TRANSPORT INFORMATION

Take adequate care so that the containers may not be damaged and confirm that damage or leakage has not occurred. If an accident occurs while being in transit, immediately contact the manufacturer.

15 REGULATORY INFORMATION

The Fire Services Act: Designated combustible substance (Combustible solid 3000kg)

MITI No: 5-3725

(Existing chemical substances registry number on the Law Concerning the Examination and Regulation of Manufacture, Etc. of Chemical Substances by the Ministry of Economy, Trade and Industry, Japan)

16. OTHER INFORMATION

\*1: Registry of Toxic Effects of Chemical Substances (RTECS)

\*2: Bmhard E M et al (European BHT Manufacturers Assoc. EBMA, Brussels, BEL)  
Mutal Res 277(3) 187-200 (1992)

\*3: The Collection of Safety Inspection Data on the Existing Chemical Substances on the Law Concerning the Examination and Regulation of Manufacture, Etc. of Chemical Substances by

## MATERIAL SAFETY DATA SHEET

### I CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product Details

Product Name	: Aluminium Stearate (Fine Powder)
Trade Name	: Palmstar Alst D1-200 Palmstar Alst D2-200 Palmstar Alst D3-200
Chemical Name	: Metal salts(s) of Fatty Acids(s), Aluminium Stearate.
Chemical Formula	: $[\text{CH}_3(\text{CH}_2)_{16}\text{COO}]_3\text{Al}$ $[\text{CH}_3(\text{CH}_2)_{16}\text{COO}]_2\text{Al}$ $[\text{CH}_3(\text{CH}_2)_{16}\text{COO}]\text{Al}$
Molar Mass	: 343.98, 609.98, 875.98
Chemical Family	: Metallic Soap
Manufacturer's Code	: Palmstar Alst D1-200 Palmstar Alst D2-200 Palmstar Alst D3-200
Use	: Pharmaceutical and Food Industry use

#### 1.2 Company Identification

Manufacturer's Name and Address	: Peter Greven Asia Sdn Bhd 2411, Lorong Perusahaan Satu, Prai Industrial Complex, Penang
Importer's/Distributor's Name and Address	: Not applicable
Telephone Number	: +60 4-3973495
Emergency Telephone Number	: +60 4-3973495

#### 1.3 Contact Point

Designation	1. Safety & Health Manager/ Officer 2. Quality / Technical Manager
Tel No	+60 4-3973495 +60 4-3973495

## MATERIAL SAFETY DATA SHEET

### II COMPOSITION/INFORMATION ON INGREDIENT

<u>Chemical Name</u>	<u>CAS No</u>	<u>Proportion</u>	<u>Exposure Limit</u>	<u>Toxicity Data</u>
[CH <sub>3</sub> (CH <sub>2</sub> ) <sub>16</sub> COO] <sub>3</sub> Al	637-12-7	Contains Aluminium salt(s) of fatty acid(s) C <sub>16</sub> -C <sub>18</sub> Purity 99% min	Not applicable	Not applicable

### III PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	White Fine Powder
Odour	:	Faint fatty odour
Solubility	:	Negligible solubility in water but can solubilised by acid
Boiling Point (°C)	:	Not applicable
Melting Point (°C)	:	145-170
Vapour Pressure (mm of Hg at 25 °C)	:	Not applicable
Percentage Volatiles	:	Not applicable
Evaporation Rate	:	Not applicable
Vapour Density	:	
Specific Gravity	:	> 1
Flash point	:	Not applicable°C
Autoignition temperature	:	Not applicable
flammable limit (%)	:	Not applicable
Other properties if applicable	:	None
Density ( 20°C)	:	> 1g/ml

### IV HAZARDS IDENTIFICATION

Most important hazards : None

## MATERIAL SAFETY DATA SHEET

### V FIRST AID MEASURES

- Ingestion : If swallowed, see a physician and present this data sheet.  
Eye contact : Flush eyes with profuse water. Remove any contact lenses to ensure thorough flushing. If discomfort persists, consult physician.  
Skin contact : Clean contaminated skin by washing with water and soap. Remove contaminated clothing.  
Inhalation : Remove from exposure. Restore breathing. Keep at rest.  
Notes to physician : The preparation contains aluminium compounds, which have negligible solubility in water but can be solubilized by acid.

### VI FIRE FIGHTING MEASURES

- Extinguishing Media : Water, dry chemical, foam, sand.  
(To avoid using carbon dioxide as media).  
Fire fighting instruction : In case of fire use most appropriate agent to extinguish fire.  
Special hazards : Not applicable.

### VII ACCIDENTAL RELEASE MEASURE

- Leak/Spill : Wearing full protective equipment, cover spill with dry sand and mix well. Clean mechanically, collect in a sealed container and label it. Avoid generating dusty conditions.

### VIII HANDLING AND STORAGE

- Handling : Avoid raising dust clouds as it may cause dust explosion.  
Storage : Store in a dry place at ambient temperature.  
Fire Prevention : Keep away from open flame.



## MATERIAL SAFETY DATA SHEET

### IX EXPOSURE CONTROL AND PERSONAL PROTECTION

- a. Exposure limit : Not applicable
- b. Engineering measures : Use adequate ventilation.  
TWA value : 10mg/m<sup>3</sup>.
- c. Personal protection : Eye protection : Goggles.  
Skin protection : Protect body against dust.  
Hand protection : Neoprene or nitrile rubber gloves.  
Respiratory protection : Half mask without cartridge of respirator for fine dust.

### X STABILITY AND REACTIVITY

- Conditions to avoid : Dust formation.
- Incompatibles : Strong oxidizing agents eg. hydrogen peroxide, chromic acid, etc.
- Decomposition products : Non hazardous carbon dioxide and water are released at very high temperature.
- Hazardous polymerization : Will not occur.

### XI TOXICOLOGICAL INFORMATION

- Toxicity Data : LD<sub>50</sub> (oral, rat) : Not applicable.
- Carcinogenicity : No
- Reproductive Effect : No data available
- Effects of overexposure : Ingestion : May be harmful, effects not known.  
Skin/ Eye contact : May cause irritation.  
Inhalation : May cause irritation.
- Chronic effects : None known
- Target organs : None
- Medical conditions Generally Aggravated by exposure : None known

## MATERIAL SAFETY DATA SHEET

### XII ECOLOGICAL INFORMATION

Mobility &	:	Not applicable
Bioaccumulation	:	Not applicable
Biodegradability	:	Not applicable
Aquatic Toxicity	:	Not applicable

### XIII DISPOSAL INFORMATION

Product	:	Disposed off in accordance with local, state and federal regulations.
Contaminated Packaging	:	Packaging material contaminated with residues has to be treated as the product itself. Designate landfill subject to applicable local, state and federal regulations.

### XIV TRANSPORT INFORMATION

Land Transport ADR/ RID	:	Not regulated as a hazardous material.
Maritime Transport IMDG/ GGVSee	:	Not applicable.
Air Transport ICAO/ IATA-DGR	:	Not regulated as a hazardous material.
UN-Number	:	Not applicable.

### XV REGULATORY INFORMATION

It is non hazardous materials, thus the R-&-S sentences are not applicable.

### XVI OTHER INFORMATION

**Always work safely when handling Aluminium Stearate (Fine Powder) and wear protective goggles and face mask.**

*This Material and Safety Data Sheet does not constitute any warranty or guarantee as to the quality, properties, condition or otherwise of the product. It has been prepared from the best knowledge available to us and we shall not be liable for any insufficiency or inaccuracy in such information in any case whatsoever.*