IOI Acidchem Sdn Bhd (111715-H)
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Group of Chemicals:	Fatty Acids	SDS No: RSDS-QC-006
Commercial Name:	PALMITIC /STEARIC ACID	Date Issue: 02 May 2019
Common Name/Other Name:	Hexadecanoic/Octadecanoic Acid Fatty acids, C16-18	Date Review: 18 October 2019

SAFETY DATA SHEET

According to EC-Regulation 1272/2008 (CLP) and 1907/2006 Annex II (REACH)

1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY/UNDERTAKING

Trade name:	Palmac 630, Palmac 630/MB, Palmac 640, Palmac 640/MB, Palmac 55-16, Palmac 55-16/MB, Palmac 60-18, Palmac 60-18/MB, Palmac 50-18, Palmac 50-18/MB, Palmac 65-18, Palmac 65-18/MB, Palmac 70-18, Palmac 70-18/MB, Palmac 1400, Palmac 1500 and Palmac 1600	Substance name:	Fatty acids C16-18

Usage:	Sector of use	Market sector by type of chemical product	Product category	Process category	Environmental release
General overview of industrial uses of commercial fatty acids	SU0, SU3, SU5, SU10, SU23	PC 9a, PC 9b, PC 9c, PC 14, PC 18, PC 20, PC 23, PC 24, PC 25, PC 32, PC 34, PC 35, PC 37, PC 39.	PC9a, PC9b, PC9c, PC14, PC18, PC20, PC21, PC23, PC23, PC24, PC25, PC32, PC34, PC35, PC37, PC39.	PROC1, PROC2, PROC3, PROC4, PROC5, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15, PROC17, PROC21	ERC1, ERC2, ERC3, ERC4, ERC4, ERC5, ERC6b, ERC6s, ERC8a, ERC8d, ERC10a, ERC11a
General overview of professional uses of commercial fatty acids	SU0, SU5, SU10, SU22, SU23	PC 31, PC 35, PC 39.	PC21, PC31, PC35, PC39	PROC2, PROC3, PROC4, PROC5, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC15, PROC19	ERC2, ERC4, ERC8a, ERC8b, ERC8d

Contact:	1. SHE Manager/Officer 2. QC Manager/Chemist	E-mail:	sds@ioioleo.com	
Company and address:	IOI Acidchem Sdn Bhd. 2411 Lorong Perusahaan Satu, Prai Industrial Complex, 13600 Prai, Penang, Malaysia.			
Emergency telephone:	IOI Acidchem Sdn Bhd Tel: +604 3768888 Use your national or local emergency number. See section 4 "First aid measures".			

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2. HAZARD IDENTIFICATION						
Danger symbol	No Danger symbol					
Hazards (health, safety & environmental)	**This product is not classified as dangerous.**					
Risk etc.	-					
Contains	-					
S-phrases (safety)	-					
Additional warnings	No additional warning					
Additional labeling	No additional labeling.					
Further	-					
VOC	VOC	-	VOC_{limit}:	-	Category:	-

3. COMPOSITION/INFORMATION ON INGREDIENTS	
NAME: IDENTIFICATION NOS.: CAS-no: EC-no: REACH-no: CONTENT w/w % CLASSIFICATION:	Fatty acids, C16-18 67701-03-5 266-928-5 01-2119543709-29-XXXX 90 - 100% **This product is not classified as dangerous.**
(*) See full text of H-phrases in chapter 16. Occupational limits are listed in section 8, if these are available. (**) Explanation:	

4. FIRST AID MEASURES	
General information	Contact a physician, if there is doubt about the injured person's condition, or the symptoms continuous. Do not ever give the unconscious person water or alike. In case of an accident: Contact a physician or the emergency room - bring the label or the safety data sheet.
After inhalation	Lead the person into fresh air and keep the person under watch.
After skin contact	Remove contaminated clothing and shoes. If there has been contact to some skin, wash is thoroughly with water and soap. Skin cleansing remedies can be used. DO NOT use solvents or a thinner.
After eye contact	Remove contact lenses. Flush eyes with plenty of water (20-30 °C) until irritation stops, or continue for at least 15 minutes. Make sure to flush under the upper and lower eyelid. Contact a physician at once.
After swallowing	Give the person plenty to drink and keep the person under watch. If fainting: Contact a physician immediately and bring along this security datasheet or the label from the product. Do not induce vomiting, unless recommended by the physician. Lower the persons head, so that vomit do not run back into the mouth or throat.
Burning	Pour water until the pain stops and continue for 30 minutes.
Information to medics	Bring this safety data sheet.

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5. Fire-fighting measures

A thick black fog will develop in case of fire. If delaying the decomposition products, a danger to ones health is at risk. Fire fighters should use proper protection gear. A closed container, which is exposed to fire, should be cooled with water. Do not allow the water from the fire extinction run into sewer systems and water streams.

Suitable extinguishing measures:	Recommendation: alcohol resistant foam, carbonic acid, powder, fog. Usage of a water beam is forbidden, since it can spread the fire.
Fire degradation products:	-
Special protective equipment for fire fighting:	Wear self-contained breathing apparatus and protective clothing to prevent contact.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions	See section 7 and 8 for protection arrangements. Use gloves and face shield
Environmental precautions	In order to prevent outlet to the surroundings, put up waste collecting trays/basins. Limit spill, and collect with granulate or alike, and get rid of it according to the regulations of dangerous waste. If possible, clean with cleaning supplies. Solvents should be avoided. See section 13 regarding handling of waste.
Methods for cleaning up/taking up	Use sand, sawdust, earth, vermiculite, diatomaceous earth to contain and collect non-combustible absorbent materials and place in container for disposal, according to local regulations. Can also allow spillage to solidify, then shoved into containers. Rinse the area with hot water and detergent

7. HANDLING AND STORAGE

Handling	See section 8 regarding personal protection. Use gloves and wear goggles when handling.
Storage	Has to be kept in a dry, cool and ventilated space .Always store in the same container as the original material. In bulk, store at about 10 deg C above melting point or ambient. Separate from strong oxidizing agent. Avoid open flame.

8. EXPOSURE CONTROLS / PERSONAL PROCECTION

General recommendations:	Smoking, consumption of food and liquids as well as storage of tobacco, foods and liquids, is not allowed in the room.
Exposure scenarios:	If there is an appendix to this safety data sheet, the indicated exposure scenarios must be complied.
Exposure limits:	Trade users should encompass the rules of the work environment legislation on maximum concentrations of exposure. See work hygienic threshold limiting values below.
Exposure controls:	Compliance of the stated exposure limits values should be checked on a regular basis.
Engineering measures:	Airborne gas and dust concentrations must be kept lowest possible and under the existing threshold limiting values (se below). In case the air streams in the work room is not sufficient, use for example a exhaust. Make sure there is a visible sign for eye cleanser and shower.
Hygiene measures:	When taking breaks, while using this product, and when work sub seeds, all exposed areas of the body has to be washed.

Exposure limits values:	Name	STEL (ppm)	STEL (mg/m3)	TWA (mg/m3)	TWA (ppm)	Note #	Year	Source
	-	-	-	-	-	-	-	-

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PNEC / DNEL	DNEL (Fatty acids, C16-18): - - Exposure: Inhalation - Duration: Acute systemic effects - Remarks: Since no toxic effects were found in acute toxicity studies, the assessment of the hazard after short-term exposure is sufficiently covered by derivation of the DNEL for long-term exposure.
	DNEL (Fatty acids, C16-18): - - Exposure: Dermal - Duration: Acute systemic effects - Remarks: Since no toxic effects were found in acute toxicity studies, the assessment of the hazard after short-term exposure is sufficiently covered by derivation of the DNEL for long-term exposure.
	DNEL (Fatty acids, C16-18): - - Exposure: Dermal - Duration: Acute - local effects - Remarks: The available toxicological data show that the test substance does not need be classified for local effects. Thus, a DNEL for local effects does not need to be derived and the assessment of the hazard is sufficiently covered by derivation of the DNEL for long-term systemic exposure.
	DNEL (Fatty acids, C16-18): - - Exposure: Inhalation - Duration: Acute - local effects - Remarks: The available toxicological data show that the test substance does not need be classified for local effects. Thus, a DNEL for local effects does not need to be derived and the assessment of the hazard is sufficiently covered by derivation of the DNEL for long-term systemic exposure.
	DNEL (Fatty acids, C16-18): 10 mg/kg bw/day - Exposure: Dermal - Duration: Long-term-systemic effects - Remarks: NAEL corr: 2000 mg/kg bw/day (based on AF of 200). Repeated dose toxicity.
	DNEL (Fatty acids, C16-18): 17,632 mg/m3 - Exposure: Inhalation - Duration: Long-term-systemic effects - Remarks: NAEC corr: 881.6 mg/m³ (based on AF of 50). Repeated dose toxicity.
	DNEL (Fatty acids, C16-18): - - Exposure: Dermal - Duration: Long-term-local-effects - Remarks: The available toxicological data show that the test substance does not need be classified for local effects. Thus, a DNEL for local effects does not need to be derived and the assessment of the hazard is sufficiently covered by derivation of the DNEL for long-term systemic exposure.
	DNEL (Fatty acids, C16-18): - - Exposure: Inhalation - Duration: Long-term-local-effects - Remarks: The available toxicological data show that the test substance does not need be classified for local effects. Thus, a DNEL for local effects does not need to be derived and the assessment of the hazard is sufficiently covered by derivation of the DNEL for long-term systemic exposure.
	PNEC (Fatty acids, C16-18): - - Exposure: Water - Duration: - - Remarks: No toxic effects on aquatic organisms of all three trophic levels (fish, invertebrates, algae) were observed up to the limit of water solubility for the considered fatty acids. Thus, no PNEC aqua (freshwater) is derived.
	PNEC (Fatty acids, C16-18): - - Exposure: Sediment - Duration: - - Remarks: As no tests on sediment organisms are available and no PNEC aqua (freshwater) is determined, no PNEC sediment (freshwater) can be derived - neither using the Equilibrium Partitioning Method, nor from sediment studies.
	PNEC (Fatty acids, C16-18): - - Exposure: Soil - Duration: - - Remarks: As no tests on soil organisms are available and no PNEC aqua (freshwater) is determined, no PNEC soil can be derived - neither using the Equilibrium Partitioning Method, nor from soil studies.
	PNEC (Fatty acids, C16-18): 883 mg/L test mat. Based on growth inhibition - Exposure: micro organisms - Duration: Single - Remarks: FAC (Coenen, T.M.M. (1989))
	PNEC (Fatty acids, C16-18): - - Exposure: sewage treatment plant - Duration: - - Remarks: No toxic effects on microorganisms were observed up to the limit of water solubility for the considered fatty acids. Thus, no PNEC stp is derived.
	PNEC (Fatty acids, C16-18): - - Exposure: oral - Duration: - - Remarks: In accordance with column 2 of REACH Annex X, the study must not be conducted if sufficient mammalian data were available. Aditionally, based on the available information, there are no indications for a bioaccumulation potential of the test substance (see chapter 4.3.3). Consequently, secondary poisoning is not a relevant exposure route. Thus, a study with birds is not needed due to animal welfare reasons.
#) Explanation(s):	NA

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Adequate personal protective equipment:	
Generally:	Use only CE classified protection gear.
Respiratory Equipment:	No specific demands.
Skin protection:	Suitable protective clothing
Hand protection:	Suitable protective glove
Eye protection:	Suitable protective goggles.
Measures to avoid environmental exposure:	Keep damming materials near the workplace. If possible collect spillage during work.

9. PHYSICAL AND CHEMICAL PROPERTIES

Form:	Colour:	Odour:	pH:	Density, g/ml
Solid/flakes/beads at room temperature	White to Pale yellow	Faint fatty odor	-	0.83 -0.86 at 75 deg C

Viscosity :12mm2/s at 70 deg C(ASTMD445)

-

Phase changes

Melting point °C:	Boiling point °C:	Vapour pressure:
53-63	200-240	<5.06E-5 at 25 deg C

Data on fire and explosion hazards

Flashpoint °C:	Ignition °C:	Self ignition °C:
180-202 (ASTM D92, Cleveland open cup)	-	-

Explosive properties v/v%	Oxidizing properties
-	-

Solubility

Soluble in water	Solubility in fat	n-octanol/water coefficient
Insoluble	-	7.05 -8.23

10. STABILITY AND REACTIVITY

Stability	The product is stable under the conditions, note in section 7.
Conditions and materials to avoid	Strong acids, strong bases, strong oxidations remedies and strong reduction remedies. Avoid direct fire.
Hazardous decomposition products	If the product gets exposed to high temperature, as in case of a fire, dangerous demolition products get created. These are: - Carbon oxides

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11. TOXICOLOGICAL INFORMATION

	Substance	Art	Test	Route	Result
Acute toxicity	Fatty acids, C16-18	Rabbit	LD50	Dermal	> 2000 mg/kg bw based on test mat.
	Fatty acids, C16-18	Rat	LC50 (4h)	Inhalation	> 0,1621 mg/L air based on test mat.
	Fatty acids, C16-18	Rat	LD50	Oral	>5000 mg/kg bw
Long term causes	Not applicable				

12. ECOLOGICAL INFORMATION

Persistence	Substance	Biodegradable	Test	Result
	Fatty acids, C16-18	Yes	No data available	No data available

Bioaccumulations	Substance	Potential bioaccumulation	Test	
			LogPow	BCF
	Fatty acids, C16-18	No	No data available	No data available

Ecotoxic effects	Substance	Art	Test	Period	Result
	Fatty acids, C16-18	Algae	EC50	72 h	> 0,9 mg/L test mat. Based on growth rate
	Fatty acids, C16-18	Daphnia magna	NOEC	21 d	>0,22 mg/L test mat.(meas.(TWA))
	Fatty acids, C16-18	Artemia salina	LC50	48 h	> 20 mg/L
	Fatty acids, C16-18	Daphnia	EC50	47 h	>32 mg/L test mat. Based on mobility
	Fatty acids, C16-18	Daphnia magna	EC50	48 h	> 4,8 mg/L test mat.
	Fatty acids, C16-18	Fish (Danio rerio)	LC50	96 h	> 1000 mg/L test mat.
	Fatty acids, C16-18	Fish (Leuciscus idus)	LC50	48 h	> 1000 mg/L test mat.

Negative effects	No data available
Mobility in soil	No data available
Results of PBT and vPvB assessment	No data available

13. DISPOSAL CONSIDERATIONS

Waste:	EWC-code		
	-		
Other labelling:	-		
Contaminated packing:	No specific demands.		

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14. TRANSPORT INFORMATION

Non dangerous goods, referring to ADR and IMDG.

ADR/RID	UN-nr.	Proper Shipping Name	Class	PG*	Notes
-	-	-	-	-	-

IMDG	UN-no.	Proper Shipping Name	Class	PG*	EmS	MP	Hazardous constituent
-	-	-	-	-	-	-	-

15. REGULATORY INFORMATION

Restrictions for application	-
Demands for specific education	No specific demands.
Chemical safety assessment	No data available.

16. OTHER INFORMATION

Sources	**EC regulation 1907/2006 (REACH)** **Directive 2000/532/EC**
Full text of R-phrases as mentioned in section 3	-

It is recommended to hand over this safety data sheet to the actual user of the product. Information in this safety data sheet cannot be used as a product specification.

The information in this safety data sheet applies only to this specific product (mentioned in section 1) and is not necessarily correct for use with other chemicals/products.

A change (in proportion to the last essential change (first cipher in SDS version)) is marked with a blue triangle.
This safety data sheet is based on available information/data at the time of the preparation.

Safety data sheet is validated by	Mak King Seng (QC Manager)