



SAFETY DATA SHEET

ISSUANCE DATE: January 18, 2013

SDS # 99-009

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

L'Oreal USA Products, Inc.
111 Terminal Avenue
Clark, NJ 07066

Emergency Telephone Number
1-800-535-5053 (International: 352-323-3500)

For further information: 732-499-2741

Poison Control Number: 412-390-3326


Product Name: Water-Based Shampoos and Body Cleansers

Recommendations on use: For cleansing of hair and/or body.

Restrictions on use: For external use only. Use only as directed. Products which are labeled "For Adult Use Only" should not be used by children. Bath products intended for children should not be used for prolonged periods due to possible skin and/or urinary tract irritation with immersion.

SECTION 2: HAZARDS IDENTIFICATION

Signal Word: WARNING

	Eye Irritation – Category 2A	Causes serious eye irritation	<ul style="list-style-type: none">Wash hands and face thoroughly after handling.Wear eye protection/face protection; eye protection appropriate for the manufacturing operation being performed should be used (goggles or face shield).
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This material is considered hazardous by the US Occupational Safety and Health Administration Hazard Communication Standard (29 CFR 1910.1200)

General Precautionary Statements: Keep out of reach of children. Read label before use. Discontinue use if rash, redness, or itching occurs.

Additional Precautionary Statements for Immersion Products: Excessive use or prolonged exposure may cause irritation to urinary tract. Avoid contact with eyes.

Hazards Not Otherwise Classified: Prolonged contact may cause irritation of skin and mucous membranes. May cause gastrointestinal disturbance and diarrhea if ingested.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

Only hazardous constituents associated with the product are listed below

INGREDIENT:	CAS NO.	% WT
Sodium Lauryl Sulfate	151-21-3	≤ 40%
Sodium Laureth Sulfate	9004-82-4	≤ 30%

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Coco-Betaine	68424-94-2	≤ 16%
Cocamidopropyl Betaine	61789-40-0	≤ 16%
Disodium Laureth Sulfosuccinate	39354-45-5	≤ 13%
Sodium Lauryl Sulfoacetate	1847-58-1	≤ 13%
Sodium Lauroyl Sarcosinate	137-16-6	≤ 9%
Disodium Cocoamphodiacetate	68650-39-5	≤ 8%
Cocamide MEA	68140-00-1	≤ 5%

SECTION 4: FIRST AID MEASURES

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing for at least 20 minutes or until material is sufficiently removed from the eye. **If eye irritation persists:** Get medical advice/attention.

IF ON SKIN: Wash with plenty of water. **If skin irritation occurs:** Get medical attention. Remove all contaminated clothing and laundry before reuse. If irritation of the urinary tract should occur following use of a bath product, consult a physician.

IF INHALED: Remove individual to fresh air and keep in a rest position comfortable for breathing. Call a poison control center if you feel unwell.

IF SWALLOWED: Immediately call a poison control center or consult a physician. Do not induce vomiting. Never give anything by mouth to an unconscious individual.

NOTES TO PHYSICIANS OR FIRST AID PROVIDERS: Most common symptoms include irritating properties to eyes, skin, and/or exposed mucous membranes.

SECTION 5: FIRE-FIGHTING MEASURES

Notes for Non-Emergency Personnel:

SUITABLE EXTINGUISHING MEDIA: Product is not flammable. Selection of a fire extinguisher should be appropriate to address the location of the fire and other materials involved.

Notes for those trained to participate in an emergency:

SPECIFIC FIRE AND EXPLOSION HAZARDS: Not known

PROTECTIVE EQUIPMENT AND PRECAUTIONS FOR FIREFIGHTERS: Firefighters should wear self-contained breathing apparatus and full protective gear.

HAZARDOUS DECOMPOSITION PRODUCTS: Thermal degradation may produce oxides of carbon and sulfur.

SECTION 6: ACCIDENTAL RELEASE MEASURES

Non-Emergency Personnel Precautions: Consult trained response personnel for clean-up of large spills or locations where providing control of the release is hazardous. Isolate the area and deny entry to unnecessary and unprotected personnel. Sections 2, 5, 7 and 8 of this document should be consulted upon use of material, to become knowledgeable of the material's hazards and how to control associated risks.

If the location is not hazardous and only a small amount of material is released: Control the spill using absorbent pads, paper towels or sponges while wearing the protective equipment as noted below. Wash area completely with water. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.



PERSONAL PROTECTIVE EQUIPMENT: Plastic or rubber gloves, safety glasses/goggles, protective clothing (e.g. apron) may be required for clean-up of large spills. Respiratory protection is typically not necessary, but may be used depending upon the size of the spill and occupational exposure limits. Refer to Section 8 for additional information.

Trained Emergency Personnel Precautions: Dike and contain any free liquid then absorb on vermiculite or spill pillows/pads. Solidified materials should be placed in sturdy containers for disposal. Wash area completely with water. Take care to avoid contact with wet surfaces or walkways that may become slick when product is present. Prohibit discharge to drains, soil, surface and ground waters. Dispose in accordance with Section 13 of this document.

SECTION 7: HANDLING AND STORAGE

Precautions for safe handling:

Do not eat, drink, or smoke while working with hazardous materials. Avoid contact with eyes, clothing, and prolonged contact with skin (other than areas of application). Refer to Section 8 for personal protective equipment selection. Wash hands and face thoroughly after handling. Do not expose to heat and flame.

Maintain a safe work environment, including proper housekeeping practices and structurally sound/compatible containers.

Incompatible Materials: None known.

Conditions for safe storage of unpackaged product (manufacturing environment): Store in the original tightly capped containers away from sunlight and other heat sources. Keep in a cool and well-ventilated area. Keep container closed when not in use. Store on spill pallets or in other locations where spill containment will be easily accessible.

Keep away from open drains and protect from releases to the environment.

Storage precautions for packaged product – see consumer packaging. No special precautions.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

CONTROL PARAMETERS: These criteria have been published by the referenced authority to establish exposure limits in the work environment. Employee work areas should be monitored to ensure that permissible limits are not exceeded during the work day. These references do not coincide with product use. These references are meant to be in association with the manufacturing environment.

OCCUPATIONAL EXPOSURE VALUES:

Component Name (CAS-No.)	Reference	TWA		STEL/CEILING	
		ppm	mg/m ³	ppm	mg/m ³
No OEVs have been established for noted constituents.	OSHA PEL	--	--	--	--
	ACGIH TLV	--	--	--	--
	NIOSH REL	--	--	--	--

WORK HYGIENIC PRACTICES: Ensure all work surfaces are maintained, to prevent contamination.

ENGINEERING CONTROLS: None required for product use. For handling large quantities of material, such as in the manufacturing of product, ventilation should be considered to control nuisance odors associated with product fragrance.

Local exhaust ventilation is not typically required for product use. For handling large quantities of material, such as in the manufacturing of product -- Local Exhaust: consistent with nuisance odor removal. Mechanical (general): consistent with nuisance odor removal.



PERSONAL PROTECTIVE EQUIPMENT: Consistent with good hygiene practices, personal protective equipment (PPE) should be used in conjunction with other control measures including engineering controls, ventilation and isolation. See also Section 5 for PPE advice, in the event of an emergency.

Eye/Face Protection (Non-Emergency): None required for product use. For handling of large quantities of material, safety glasses with side shields/goggles are recommended. Face shields may be required where possibility of a large splash to the face could occur.

Skin Protection (Non-Emergency): None required for product use. For handling large quantities of material, such as in product manufacturing, plastic or rubber gloves should be considered for use. Tyvek clothing may also be suitable for handling large quantities of material in the manufacturing environment.

Respiratory Protection (Non-Emergency): Respiratory protection is not required for product use. For manufacturing of product, respiratory protection may be considered to control nuisance odors. Ensure that the respirator meets current local occupational health and safety standards.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE:	Colored, transparent or opaque, semi-viscous liquid		
ODOR:	Pleasant odor		
ODOR THRESHOLD:	Not Available		
pH:	3.5 – 9.0		
MELTING/FREEZING POINT:	F: ~32	C: ~0	
BOILING POINT:	F: ~212	C: ~100	
FLASH POINT:	F: >200	C: >93.4	METHOD USED: Closed cup
EVAPORATION RATE:	<1 (Butyl acetate = 1)		
FLAMMABILITY:	Not Applicable to Liquids		
FLAMMABLE LIMITS IN AIR:	Not Available		
VAPOR PRESSURE (mmHg):	@ F: N/A	C: N/A	
VAPOR DENSITY (AIR = 1):	@ F: N/A	C: N/A	
RELATIVE DENSITY (H₂O = 1):	~1		
SOLUBILITY IN WATER:	Freely soluble		
PARTITION COEFFICIENT:	Not Available		
AUTOIGNITION TEMPERATURE:	Not Available		
DECOMPOSITION TEMPERATURE:	Not Available		
VISCOSITY:	Viscous flowing liquid		

SECTION 10: STABILITY AND REACTIVITY

REACTIVITY: Material is not considered reactive under typical handling and storage conditions.

STABILITY: Product is stable.

POSSIBILITY OF HAZARDOUS REACTIONS: None known. Hazardous polymerization is not expected to occur.

CONDITIONS TO AVOID: None known.

INCOMPATIBILITY (MATERIAL TO AVOID): None known.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxides of carbon and sulfur, hydrocarbons, and/or derivatives.

SECTION 11: TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS:

SKIN CORROSION/IRRITATION: Overexposure may cause skin irritation or dryness

SERIOUS EYE DAMAGE/IRRITATION: Causes serious eye irritation

RESPIRATORY/SKIN SENSITIZATION: None expected

INGESTION: May cause gastrointestinal disturbance or diarrhea

INHALATION: None expected

ROUTES OF EXPOSURE: Eyes and skin

SYMPTOMS: Symptoms may include watering, stinging or itching eyes with direct contact. Prolonged contact may cause irritation of skin and mucous membranes. May cause gastrointestinal disturbance and diarrhea if ingested.

MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE: Existing dermatological conditions (such as eczema) may be exacerbated.

ACUTE TOXICOLOGY DATA FOR COMPONENTS

Material	Route	Species	Test Results
Sodium Laureth Sulfate	Oral LD ₅₀	Rat	4,100 mg/kg bw
Sodium Laureth Sulfate	Dermal LD ₅₀	Rabbit	> 2,000 mg/kg bw
Sodium Lauryl Sulfate (28.2%)	Oral LD ₅₀	Rat	6,000 mg/kg
Sodium Lauryl Sulfate	Dermal LD ₅₀	Rabbit	ca.600 mg/kg
Sodium Lauryl Sulfate	LC ₅₀ (4 hr)	Rat	8.67 mg/L
Coco-Betaine	Oral LD ₅₀	Rat	6,900 mg/kg
Coco-Betaine	Dermal LD ₅₀	Rat	>2.0 g/kg
Cocamidopropyl Betaine (30.6 % Active solution)	Oral LD ₅₀	Rat	4900 mg/kg bw
Cocoamidopropyl Betaine (31% Active solution)	Dermal LD ₅₀	Rat	>2000 mg/kg
Disodium Cocamphodiacetate	Oral LD ₅₀	Rats/Mice	>5.0 to 16.60 g/kg
Disodium Cocamphodiacetate	Dermal LD ₅₀	Rats/Mice	>10.0 ml/kg
Sodium Lauroyl Sarcosinate	Oral LD ₅₀	Rats	4.2 - 5 mg/kg
Sodium Lauryl Sulfoacetate	Oral LD ₅₀	Rats	5,750 mg/kg
Disodium Laureth Sulfosuccinate (40%)	Oral LD ₅₀	Rats	>2,000 mg/kg
Disodium Laureth Sulfosuccinate (30-40%)	Dermal LD ₅₀	Rabbits	>2,000 mg/kg
Cocamide Mea	Oral LD ₅₀	Mice	>10 g/kg
Cocamide Mea	Dermal LD ₅₀	Rabbits	>2 g/kg

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Skin Corrosion/Irritation:

<i>Sodium Laureth Sulfate:</i>	Not Irritating: 5% - 5.6%; Minimally Irritating: 6 - 10%; Severely Irritating: > 25% (Rat)
<i>Sodium Lauryl Sulfate:</i>	Slightly – Moderately Irritating: 0.5% - 10%; Skin Corrosion - Severe Irritation: 10% - 30% (Rat)
<i>Coco-Betaine:</i>	Not Irritating: 7.5%; Slightly Irritating: 15%; Mildly Irritating: 30% (Rat); Not Irritating: 6.0% (Human)
<i>Cocoamidopropyl Betaine:</i>	Slightly irritating: 10% (Human)
<i>Disodium Cocamphodiacetate:</i>	Irritating: 4.0% (Rat)
<i>Sodium Lauroyl Sarcosinate:</i>	Not Irritating: 30% (Rat)
<i>Sodium Lauryl Sulfoacetate:</i>	Moderate Irritant – 100%
<i>Disodium Laureth Sulfosuccinate:</i>	Not irritating: 3%
<i>Cocamide Mea:</i>	Slightly Irritating: 50% (Rabbit); Not Irritating: 50% (Human)

Serious Eye Damage/Irritation:

<i>Sodium Laureth Sulfate:</i>	Mildly Irritating: 1.3 – 7.5%; Moderately Irritating: 10 – 17.5%; Severely Irritating: >20% (Rat)
<i>Sodium Lauryl Sulfate:</i>	Mildly Irritating: 5.1%; Moderately Irritating: 10%; Severely Irritating: 21% (Rat)
<i>Coco-Betaine:</i>	Not Irritating: 4.5% (Rat); Moderately Irritating: 10%, (Rabbit);
<i>Cocoamidopropyl Betaine:</i>	Slightly Irritating: 10% (Human)
<i>Disodium Cocamphodiacetate:</i>	Moderately - Severely Irritating: 10-12%
<i>Sodium Lauroyl Sarcosinate:</i>	Not Irritating: 5%; Slightly Irritating: 10% (Rabbit)
<i>Sodium Lauryl Sulfoacetate:</i>	Possibly Irritating
<i>Disodium Laureth Sulfosuccinate:</i>	Irritating: 10%; Eye Damage: 25% (Rabbit)
<i>Cocamide Mea:</i>	Irritating after prolonged contact

Respiratory Irritation:

<i>Sodium Laureth Sulfate:</i>	Causes Respiratory Irritation.
<i>Sodium Lauryl Sulfate:</i>	15% - 25% - Inhibition of Respiration (Mice and Rabbits)
<i>Coco-Betaine:</i>	Possibly Irritating
<i>Sodium Lauroyl Sarcosinate:</i>	Possibly Irritating
<i>Cocamide Mea:</i>	Possibly Irritating
<i>Cocoamidopropyl Betaine:</i>	Not Irritating
<i>Sodium Lauroyl Sarcosinate:</i>	Not Irritating

Skin Sensitization:

<i>Sodium Laureth Sulfate:</i>	Not Sensitizing: 0.1% (Topical Application); Slightly Sensitizing: 0.1% (Intradermal) (Guinea Pig)
<i>Sodium Lauryl Sulfate:</i>	Possibly sensitizing with repeated contact.
<i>Cocoamidopropyl Betaine:</i>	Possibly sensitizing with repeated contact.
<i>Coco-Betaine:</i>	Not Sensitizing: 0.75% (Guinea Pig); Slightly Sensitizing: 0.15% (Intradermal) (Guinea Pig)
<i>Disodium Cocoamphodiacetate:</i>	Not Sensitizing: 28.1%
<i>Sodium Lauroyl Sarcosinate:</i>	Not Sensitizing: 5%
<i>Sodium Lauryl Sulfoacetate:</i>	Not Sensitizing: 2% (Guinea pig)

CHRONIC HEALTH HAZARDS:

REPEAT DOSE TOXICITY:

NOAEL (<i>Sodium Laureth Sulfate</i> , oral):	>225 mg/kg bw/day; Rat
NOAEL (<i>Sodium Lauryl Sulfate</i> , oral):	100 mg/kg/day; Rat
NOAEL (<i>Cocoamidopropyl Betaine</i>):	500 mg/kg; Rat
LOAEL (<i>Cocoamidopropyl Betaine</i>):	1,000 mg/kg; Rat
NOAEL (<i>Disodium Cocoamphodiacetate</i> , oral):	16.60g/kg; Rat
NOAEL (<i>Sodium Lauroyl Sarcosinate</i>):	1,000 mg/kg/day; Rat
NOAEL (<i>Sodium Lauryl Sulfoacetate</i> , oral):	75 mg/kg/day; Rat
NOAEL (<i>Disodium Laureth Sulfosuccinate</i>):	300 mg/kg; Rat
NOAEL (<i>Cocamide Mea</i> , oral):	> 750 mg/kg bw/day in olive oil; Rat

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MUTAGENICITY:

<i>Sodium Laureth Sulfate:</i>	A variety of <i>in vitro</i> and <i>in vivo</i> tests have produced negative results.
<i>Sodium Lauryl Sulfate:</i>	A variety of <i>in vitro</i> and <i>in vivo</i> tests have produced negative results.
<i>Coco-Betaine:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Cocoamidopropyl Betaine:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Disodium Cocoamphodiacetate:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Sodium Lauroyl Sarcosinate:</i>	A variety of <i>in vitro</i> and <i>in vivo</i> tests have produced negative results.
<i>Sodium Lauryl Sulfoacetate:</i>	A variety of <i>in vitro</i> tests have produced negative results.
<i>Disodium Laureth Sulfosuccinate:</i>	A variety of <i>in vitro</i> and <i>in vivo</i> tests have produced negative results.
<i>Cocamide Mea:</i>	A variety of <i>in vitro</i> tests have produced negative results.

REPRODUCTIVE TOXICITY

<i>Sodium Laureth Sulfate:</i>	NOAEL > 3%; 300 mg/kg/day. No adverse effects after 0.1% solutions.
<i>Sodium Lauryl Sulfate:</i>	No adverse effect was seen on fertility.
<i>Coco-Betaine:</i>	No adverse effect was seen on fertility.
<i>Cocoamidopropyl Betaine:</i>	No adverse effect was seen on fertility.
<i>Sodium Lauroyl Sarcosinate:</i>	No adverse effect was seen on fertility.
<i>Sodium Lauryl Sulfoacetate:</i>	NOAEL: 1000 mg/kg bw (OECD 421)
<i>Disodium Laureth Sulfosuccinate:</i>	No adverse effect was seen on fertility.
<i>Cocamide MEA:</i>	No adverse effect was seen on fertility.

DEVELOPMENTAL TOXICITY/TERATOGENICITY

<i>Sodium Laureth Sulfate:</i>	NOAEL: 1,000 mg/kg bw/day (OECD 414 – Rat)
<i>Sodium Lauryl Sulfate:</i>	NOAEL: 300 mg/kg/day; LOAEL: 600 mg/kg/day (Mice/Rat)
<i>Coco-Betaine:</i>	No indication for genotoxic or teratogenic effects
<i>Sodium Lauroyl Sarcosinate:</i>	NOAEL: > 1,000 mg/kg/day (Rat)
<i>Sodium Lauryl Sulfoacetate:</i>	NOAEL: 1000 mg/kg bw (OECD 421)
<i>Disodium Laureth Sulfosuccinate:</i>	NOAEL: > 50 mg/kg bw/day
<i>Cocamide MEA:</i>	No indication for genotoxic or teratogenic effects

SECTION 12: ECOLOGICAL INFORMATION

The product ingredients are expected to be safe for the environment at concentrations predicted under normal use and accidental spill scenarios. Packaging components are compatible with the conventional solid waste management practices. Additional information is available from the supplier on request.

Contact with the environment should be avoided. Spills and leaks should be immediately cleaned up and removed. All precautions should be taken to prevent contact with the environment. Published information regarding ingredients listed on this document area found below; where data is not listed, documentation was unavailable.

ACUTE AND PROLONGED TOXICITY TO FISH

INGREDIENT NAME	TEST	RESULT	SPECIES	EXPOSURE
<i>Sodium Laureth Sulfate</i>	LC ₅₀	7.1 mg/L	<i>Danio Rerio</i>	96 h
<i>Sodium Lauryl Sulfate</i>	LC ₅₀	29 mg/L (OECD 203)	<i>Pimephales Promelas</i>	48 h
<i>Coco-Betaine</i>	LC ₅₀	2 mg/L	<i>Golden Orfe</i>	96h
<i>Cocamidopropyl Betaine</i>	LC ₅₀	1.0-10.0 mg/L	<i>Golden Orfe</i>	96 h
<i>Disodium Cocamphodiacetate</i>	LC ₅₀	> 1 – 10 mg/L	<i>Not Reported</i>	96 h
<i>Sodium Lauroyl Sarcosinate</i>	LC ₅₀	107 mg/L	<i>Danio Rerio</i>	96 h
<i>Sodium Lauroyl Sulfoacetate</i>	LC ₅₀	4.2 mg/L (OECD 203)	<i>Not Reported</i>	96 h
<i>Cocamide MEA</i>	LC ₅₀	23 - >100 mg/L	<i>Danio Rerio</i>	96 h

ACUTE TOXICITY TO AQUATIC INVERTEBRATES

INGREDIENT NAME	TEST	RESULT	SPECIES	EXPOSURE
Sodium Laureth Sulfate	EC ₅₀	7.4 mg/L	Daphnia Magna	48 h
Sodium Lauryl Sulfate	EC ₅₀	5.55 mg/L	Ceriodaphnia Dubia	48 h
Coco-Betaine	EC ₅₀	6.5mg/L	Brachydanio Rerio	48 h
Cocamidopropyl Betaine	EC ₅₀	2 mg/L	Brachydanio Rerio	96 h
Disodium Cocamphodiacetate	EC ₅₀	25 mg/L	Daphnia Magna	48 h
Sodium Lauroyl Sarcosinate	EC ₅₀	29.7 mg/L	Daphnia Magna	48 h
Sodium Lauroyl Sulfoacetate	EC ₅₀	5.9 mg/L (OECD 201)	Daphnia Magna	48 h

TOXICITY TO AQUATIC PLANTS

INGREDIENT NAME	TEST	RESULT	SPECIES	EXPOSURE
Sodium Laureth Sulfate	EC ₅₀	27 mg/L	Desmodesmus Subspicatus	72 h
Sodium Lauryl Sulfate	EC ₅₀	> 120mg/L	Green Algae	72 h
Coco-Betaine	EC ₅₀	6mg/L	Not Reported	72h
Cocamidopropyl Betaine	EC ₅₀	1.0 – 10 mg/L	Desmodesmus Subspicatus	72 h
Disodium Cocoamphodiacetate	EC ₅₀	>100 mg/L	Not Reported	72 h
Sodium Lauroyl Sarcosinate	EC ₅₀	86 mg/L	Desmodesmus Subspicatus	72 h
Sodium Lauroyl Sulfoacetate	EC ₅₀	1.9 mg/L	EC Biomass	96 hours
Cocamide MEA	EC ₅₀	26 mg/L	Not Reported	96 hours

TOXICITY TO MICROORGANISMS

INGREDIENT NAME	TEST	RESULT	SPECIES	EXPOSURE
Sodium Laureth Sulfate	EC ₅₀	>10g/L	Pseudomonas Putida	16 h
Sodium Lauryl Sulfate	EC ₅₀	0.38 mg/l	Photobacterium Phoshoreum	15 mins
Coco-Betaine	EC ₅₀	>85 m/L	Not Reported	72 h
Cocamidopropyl Betaine	EC ₅₀	>100 mg/L	Pseudomonas Putida	72 h
Disodium Cocoamphodiacetate	EC ₅₀	>100 mg/L	Not Reported	72 h
Sodium Lauroyl Sarcosinate	EC ₅₀	> 10mg/L (CESIO 1994)	Not Reported	72 h

PERSISTENCY AND DEGRADABILITY:

Sodium Laureth Sulfate:	Readily biodegradable; Half Life: 30 days (soil)
Sodium Lauryl Sulfate:	Readily biodegradable (95% in 28 days) – OECD 301
Coco-Betaine:	Readily biodegradable (84%)
Cocoamidopropyl Betaine:	Readily and rapidly degradable. (> 60% BOD/COD, > 70% DOC) (OECD 301)
Disodium Cocamphodiacetate:	Readily biodegradable (83% in 28 days) – OECD 302B
Sodium Lauroyl Sarcosinate:	Readily biodegradable (90.9% in 20 days).
Cocamide MEA:	Fully degradable (28-day)

BIOACCUMULATIVE POTENTIAL:

Sodium Laureth Sulfate:	Not considered to be bioaccumulative.
Sodium Lauryl Sulfate:	Low bioaccumulation potential.
Coco-Betaine:	Not suspected to be bioaccumulative.
Sodium Lauroyl Sarcosinate:	Bioaccumulation and bioconcentration is expected because of the relatively high water solubility.
Cocamide Mea:	Potentially bioaccumulative (log P >4)