

SAFETY DATA SHEET

Date Updated: Sep/27/2022

< 1 > Product and Company Information

Product Name *Rapids* PALM, Protein S-Palmitoylation Detection Kit
 Code Number F017A
 Component 2× Binding Buffer
 Company BioDynamics Laboratory Inc.
 Address 9-7 Hongo 2-Chome, Bunkyo-Ku, Tokyo 113-0033 JAPAN
 Phone +81-3-5803-9983
 Fax +81-3-5684-6270

<2 > Hazards Identification (Evaluated as a single compound below (Sodium dodecyl sulfate))

Classification

Acute toxicity (Oral) (Category 4)
 Acute toxicity (Skin) (Category 2)
 Skin corrosive / Irritation (Category 2)
 Serious eyes damage /Eyes irritation (Category 1)
 Specification target internal organs / systemic toxicity (single exposure) (Category 1)
 Specification target internal organs/systemic toxicity (repeat exposure) (Category 2)
 Aquatic environmental toxicity: acute (Category 1, 3)

Symbol:



Signal word

Danger

Hazard statement(s)

H302: Harmful if swallowed
 H310: Fatal in contact with skin
 H315: Causes skin irritation.
 H318: Causes serious eye damage.
 H370: Causes damage to the following organs: central nervous system
 H373: May cause damage to the following organs through prolonged or repeated exposure: liver
 H400: Very toxic to aquatic life
 H412: Harmful to aquatic life with long lasting effects.

Precautionary statement(s)

P260: Do not breathe dust/fume/gas/mist/vapors/spray
 P262: Do not get in eyes, on skin, or
 P264: Wash face, hands and any exposed skin thoroughly after
 P270: Do not eat, drink or smoke when using this product
 P273: Avoid release to the environment.
 P280: Wear protective gloves/protective clothing/eye protection/face protection
 P330: Rinse mouth
 P361: Remove/Take off immediately all contaminated clothing
 P364: Wash contaminated clothing before reuse
 P391: Collect spillage
 P301+P312: IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell
 P302+P352: IF ON SKIN: Gently wash with plenty of soap and water

P305+P351+P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do.
Continue rinsing. Immediately call a POISON CENTER/doctor.
P308+P313: IF exposed or concerned Call a POISON CENTER or doctor/physician
P332+P313: If skin irritation occurs: Get medical advice/attention
P405: Store locked up
P501: Dispose of contents/container to an approved waste disposal plant

Supplemental Hazard Statements
none

< 3 > Composition/Information on Ingredients

Component	2× Base Buffer	
Description of the product	Mixture of substances listed below with nonhazardous additions	
Hazardous Ingredient(s)		
Sodium dodecyl sulfate	CAS #: 151-21-3	Percent: 4 %
	Synonym: Sodium lauryl sulfate	

< 4 > First Aid Measures (Sodium dodecyl sulfate)

Eye	If this chemical contacts the eyes, immediately wash the eyes with large amounts of water, occasionally lifting the lower and upper lids. Consult a doctor immediately. Contact lenses should not be worn when working with this chemical.
Skin	If this chemical contacts the skin, immediately flush the contaminated skin with water. If this chemical penetrates the clothing, immediately remove the clothing and flush the skin with water. Get medical attention promptly.
Breathing	If a person breathes large amounts of this chemical, move the exposed person to fresh air at once. If breathing has stopped, perform mouth-to-mouth resuscitation. Keep the affected person warm and at rest. Consult a doctor as soon as possible.
Swallow	If this chemical has been swallowed, consult a doctor immediately.

< 5 > Fire-Fighting Measures (Sodium dodecyl sulfate)

Extinguishing Media	Water spray, Carbon dioxide, dry chemical powder or alcohol-resistant foam.
Protective Equipment	Wear self-contained breathing apparatus and protective suit.

< 6 > Accidental Release Measures (Sodium dodecyl sulfate)

Personal precautions	Chemical protection suit including self-contained breathing apparatus.
Methods For Cleaning Up	Sweep spilled substance into covered containers. Carefully collect remainder. Then store and dispose of according to local regulations.

< 7 > Handling and Storage

Handling	Wear appropriate protective gloves, clothing and goggles.
Storage	Keep tightly closed. Store at room temperature.

< 8 > Exposure Controls / Personal protection

Exposure Limits	Not available.
Wear appropriate protective eyeglasses or chemical safety goggles, protective gloves and protective lab coat. Use an approved respirator. Safety shower and eye wash are required. Mechanical exhaust is needed to control exposure. Carry out according to good industrial hygiene and safety procedures, such as, wash thoroughly after handling, remove and wash contaminated clothing.	

< 9 > Physical/Chemical Properties

Appearance	Form: Liquid
Boiling point/range	No data available
Melting point/range	No data available

Flash point	No data available
Auto Ignition Temp	No data available
Decomposition Temp	No data available
Water solubility	No data available

< 10 > Stability and Reactivity

Stability	Stable under recommended storage conditions.
Materials to Avoid	No information available.
Hazardous decomposition products	No information available.

< 11 > Toxicological Information (Sodium dodecyl sulfate)

Effective of short-term exposure:	The substance is irritating to the eyes, skin and respiratory tract.
Effective of long-term or repeated exposure:	Repeated or prolonged contact with skin may cause dermatitis.
Inhalation	Sore throat. Cough
Skin	Redness.
Eyes	Pain. Redness.
Ingestion	Nausea. Vomiting. Diarrhoea.
Acute toxicity	LD50 Intraperitoneal - mouse - 250 mg/kg
	LD50 Intravenous - mouse - 118 mg/kg
	LD50 Intraperitoneal - rat - 210 mg/kg
	LD50 Intravenous - rat - 118 mg/kg
	LD50 Inhalation - rat - > 3900 mg/m ³ /1H
	LD50 Oral - rat - > 1288 mg/kg

< 12 > Ecological Information (Sodium dodecyl sulfate)

This substance is toxic to aquatic organisms. It is strongly advised not to let the chemical enter into the environment.

< 13 > Disposal Considerations

Dispose of in accordance with local regulations.

< 14 > Transport Information

DOT Classification	Not regulated (United States).
IATA	Not regulated.
RID/ADR	Not regulated.
Special Provisions for Transport	Not applicable.

< 15 > Regulatory Information

US State Regulations:

TSCA inventory Item	Listed
SARA 313	No
California Proposition 65	No

Canadian Regulations:

DSL inventory Item	Listed
NDSL inventory Item	No

Japanese Government Regulations:

Poisonous and Deleterious Substances Control Act	Not listed
Industrial Safety and Health Act	Not listed
PRTR	Listed: Class I Designated Chemical Substances

< 16 > Reference

- 1) Japan CHEmicals Collaborative Knowledge database
 - 2) NITE Chemical Risk Information Platform)
 - 3) THE MERCK INDEX 13TH EDITION
 - 4) UNECE web page (GHS pictograms)
-

< 17 > Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biodynamics Laboratory Inc., shall not be held liable for any damage resulting from handling or from contact with the above product.

SAFETY DATA SHEET

Date Updated: Sep/27/2022

< 1 > Product and Company Information

Product Name *Rapids* PALM, Additional Components for Affinity Purification
 Code Number F017B
 Company BioDynamics Laboratory Inc.
 Address 9-7 Hongo 2-Chome, Bunkyo-Ku, Tokyo 113-0033 JAPAN
 Phone +81-3-5803-9983
 Fax +81-3-5684-6270

< 2 > Hazards Identification

Classification
 Flammable Liquid, Category 3

Symbol:



Signal word: Danger

Hazard statement(s)
 H226 Flammable liquid and vapor.

Precautionary Statement(s)
 P210 Keep away from heat, sparks, open flames and hot surfaces. — No smoking.
 P233 Keep container tightly closed.
 P241 Use explosion-proof electrical, ventilating and lighting equipment.
 P242 Use only non-sparking tools.
 P243 Take precautionary measures against static discharge.
 P280 Wear protective gloves, eye protection, protective clothing.
 P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 P370+P378 In case of fire: use regular dry chemical, carbon dioxide, water, or alcohol-resistant foam.
 P403+P235 Store in a well-ventilated place. Keep cool.
 P501 Dispose of contents in accordance with applicable local regulations.

Supplemental Hazard Statements: none

< 3 > Composition/Information on Ingredients

Component: Affinity Beads

Description of the product: Mixture of substances listed below with nonhazardous additions

Hazardous Ingredient(s)

Ethanol	CAS #: 64-17-5	Percent: 25%
	Synonym: ethyl alcohol	

< 4 > First Aid Measures

Inhalation If adverse effects occur, remove to uncontaminated area. If not breathing, give artificial respiration or oxygen by

	qualified personnel. Seek immediate medical attention.
Skin Contact	Rinse affected area with soap and water for at least 15 minutes. Seek medical assistance if necessary.
Eye Contact	Immediately flush eyes, including under the eyelids with copious amounts of water for at least 15 minutes. Seek immediate medical attention.
Ingestion	If a large amount is swallowed, get medical attention.
Most Important Symptoms/Effects, Acute and Delayed	Respiratory tract irritation, skin irritation, eye irritation, liver damage, and central nervous system depression.
Indication of any immediate medical attention and special treatment needed, if necessary	If any of the above symptoms are present, seek immediate medical attention.
No further relevant information available.	

< 5 > Fire-Fighting Measures

Fire and Explosion Hazards	Severe fire hazard. Vapor is heavier than air. Vapors or gases may ignite at distant ignition sources and flash back. Vapor/air mixtures are explosive above flash point. See Section 9, "Physical and Chemical Properties" for flammability properties.
Extinguishing Media	Suitable: Regular dry chemical, carbon dioxide, fine water spray, and alcohol resistant foam. Unsuitable: None listed.
Specific Hazards Arising from the Chemical	Thermal decomposition will form oxides of carbon.
Special Protective Equipment and Precautions for Fire-Fighters	Avoid inhalation of material or combustion byproducts. Wear full protective clothing and NIOSH approved self-contained breathing apparatus (SCBA).
NFPA Ratings (0 = Minimal; 1 = Slight; 2 = Moderate; 3 = Serious; 4 = Severe)	Health = 2 Fire = 3 Reactivity = 0

< 6 > Accidental Release Measures

Personal Precautions, Protective Equipment and Emergency Procedures	Immediately contact emergency personnel. Keep unnecessary personnel away. Use suitable protective equipment; see Section 8, "Exposure Controls and Personal Protection".
Methods and Materials for Containment and Clean up	Do not touch spilled material. Notify safety personnel of spills. Absorb with sand or other non-combustible material. Collect spilled material in appropriate container for disposal. Isolate hazard area and deny entry.

< 7 > Handling and Storage

Safe Handling Precautions	See Section 8, "Exposure Controls and Personal Protection". Handle glass ampoules with care.
Storage	Store and handle in accordance with all current regulations and standards. Sealed ampoules, as received, should be stored in the dark at temperatures between 10 °C and 30 °C. Keep separated from incompatible substances.

< 8 > Exposure Controls / Personal protection

Exposure Limits	OSHA (PEL): 1000 ppm TWA or 1900 mg/m ³ TWA ACGIH (TLV): 1000 ppm STEL NIOSH (REL): 1000 ppm TWA or 1900 mg/m ³ TWA 3300 ppm IDLH (10 % LEL)
Engineering Controls	Provide local exhaust or process enclosure ventilation system. Ensure compliance with applicable exposure limits.
Personal Protection	In accordance with OSHA 29 CFR 1910.132, subpart I, wear appropriate Personal Protective Equipment (PPE) to minimize exposure to this material.
Respiratory Protection	If workplace conditions warrant a respirator, a respiratory protection program that meets OSHA 29CFR 1910.134 must be followed. Refer to NIOSH 42 CFR 84 for applicable certified respirators.
Eye/Face Protection	Wear splash resistant safety goggles with a face shield. An eye wash station should be readily available near areas of use.
Skin and Body Protection	Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. Chemical-resistant gloves should be worn at all times when handling chemicals.

< 9 > Physical/Chemical Properties

Appearance	Form: Suspension
Molecular Formula	C ₂ H ₅ OH
Molar Mass (g/mol)	46.07
Odor	vinous
Odor threshold	5 ppm to 10 ppm
pH	not available
Evaporation rate (CCl ₄ = 1)	1.4
Melting point/freezing point (°C)	-117 (-179 °F)
Density (g/mL)	0.78775 at 20 °C
Specific Gravity (water = 1)	0.7893
Vapor Pressure (mmHg)	40 at 19 °C
Vapor Density (air = 1)	1.59
Viscosity (cP)	1.22 to 1.41 at 20 °C
Solubility(ies)	benzene, ether, acetone, chloroform, organic solvents
Partition coefficient (n-octanol/water):	not available
Autoignition Temperature (°C)	363 (685 °F)
Thermal Decomposition (°C)	not applicable
Initial boiling point and boiling range (°C)	78.3 to 78.5 (173 °F)
Explosive Limits, LEL (Volume %)	3.3
Explosive Limits, UEL (Volume %)	19
Flash Point (°C)	13 °C (TCC)
Flammability (solid, gas)	not applicable

< 10 > Stability and Reactivity

Reactivity	Stable at normal temperatures and pressure.
Stability	Stable
Possible Hazardous Reactions	None listed.
Conditions to Avoid	Avoid heat, flames, sparks and other sources of ignition. Ampoules may rupture or explode if exposed to heat.
Incompatible Materials	Acids, bases, combustible materials, halo carbons, halogens, metal oxides, metal salts, metals, oxidizing materials, peroxides.
Fire/Explosion Information	See Section 5, "Fire Fighting Measures".
Hazardous Decomposition	Thermal decomposition will produce oxides of carbon.
Hazardous Polymerization	Will Not Occur

< 11 > Toxicological Information

For Ethanol	
Inhalation	Ethanol may cause irritation of mucous membranes, headache, drowsiness, fatigue, nervousness, dullness, narcosis, lack of concentration, somnolence, and symptoms of drunkenness. Reproductive effects have been reported in animals.
Skin Contact	Ethanol may cause irritation, mild redness and burning, sensitization, allergic, contact dermatitis. Chronic exposure to ethanol may result in defatting of the skin.
Eye Contact	Ethanol may cause irritation, conjunctivitis, and corneal cloudiness. Vapors exposure at sufficiently high concentrations may cause stinging and watering of the eye.
Ingestion	Ethanol short term exposure may cause headache, drowsiness, emotional lability, decreased inhibitions, exhilaration, boastfulness, talkativeness, remorse, belligerency, gradual visual impairment, muscular incoordination, slurring of speech, and symptoms of drunkenness; long term exposure may result in liver damage. Reproductive effects have been reported in animals.
Acute Toxicity	Not classified. Ethanol, Rat, Oral LD ₅₀ : 7060 mg/kg Rat, Inhalation LC ₅₀ : 124.7 mg/L (4 h)
Skin Corrosion/Irritation	Not classified. Ethanol, Rabbit skin, moderate: 20 mg (24 h) Human skin: 70 %

Serious Eye damage/Eye irritation	Not classified. Ethanol, Rabbit eyes, mild: 500 mg (24 h) Rabbit eyes, severe: 500 mg
Respiratory Sensitization	No data available.
Skin Sensitization	No data available.
Germ Cell Mutagenicity	Not classified. Human, 15 mmol/L (24 h), 100 mmol/L (3 h)
Carcinogenicity	Not classified, this SRM is not for human consumption.
Reproductive Toxicity	Not classified. Rat, Oral TDLo: 112 mg/kg (14 d) Human, Oral TDLo (37 weeks pregnant): 250 mg/kg
Listed as a Carcinogen/Potential Carcinogen	No IARC lists ethanol (as related to alcoholic beverages) as Group 1 (carcinogenic to humans).
Specific Target Organ Toxicity, Single Exposure	Not classified.
Specific Target Organ Toxicity, Repeated Exposure	Not classified.
Aspiration Hazard	No data available.

< 12 > Ecological Information

Ecotoxicity Data	Rainbow trout (<i>Oncorhynchus mykiss</i>) LC50 (static): 12.0 mL/L to 16.0 mL/L (96 h) Fathead minnow (<i>Pimephales promelas</i>) LC50 (static): >100 mg/L (96 h) Freshwater water flea (<i>Daphnia magna</i>) EC50 (static): 2 mg/L (48 h)
Persistence and Degradability	No data available.
Bioaccumulative Potential	No data available.
Mobility in Soil	No data available.
Other Adverse effects	No data available.

< 13 > Disposal Considerations

Dispose of in accordance with local regulations.

< 14 > Transport Information

U.S. DOT and IATA: UN1170, Ethanol, Hazard Class 3, Packing Group III, Excepted Quantities E1.

< 15 > Regulatory Information

US State Regulations:	
TSCA inventory Item	Listed
SARA Title III Sections 311/312 Hazardous Categories (40 CFR 370.21)	ACUTE HEALTH: Yes. CHRONIC HEALTH: Yes. FIRE: Yes. REACTIVE: No. PRESSURE: No
California Proposition 65	Warning! This product contains a chemical (ethanol) known to the state of California to cause cancer and reproductive/developmental effects.
Canadian Regulations:	
DSL inventory Item	No
NDSL inventory Item	No
Japanese Government Regulations:	
Poisonous and Deleterious Substances Control Act	Not listed
Industrial Safety and Health Act	Notifiable Substances (Law Art.57, Enforcement Order Art.18) - Ethanol Notifiable Substances (Law Art.57-2, Enforcement

PRTR

< 16 > Reference

- 1) ChemAdvisor, Inc., MSDS, Ethyl Alcohol, 09 December 2015.
 - 2) Hazardous Substances Data Bank, National Library of Medicine, Ethanol, CAS# 64-17-5, Full Record, available at <http://toxnet.nlm.nih.gov/> (accessed Aug 2017).
-

< 17 > Other Information

DISCLAIMER

For R&D use only. Not for drug, household or other uses.

WARRANTY

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Biodynamics Laboratory Inc., shall not be held liable for any damage resulting from handling or from contact with the above product.