

S-Palmitoylation Kit Buffer A / Binding Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: K010-312A/ K010-312C

Product Name: S-Palmitoylation Buffer A/10x Binding Buffer

Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: For research use only, not for human or veterinary use.

Details of the Supplier of the Safety Data Sheet:

Company Name: Badrilla

15 Queen Square
Leeds LS2 8AJ
United Kingdom

Web site address : www.badrilla.com

E-mail address : info@badrilla.com

Emergency telephone number:

| | | |
|--------------------|--------------|--|
| Emergency contact: | Badrilla Ltd | +44 7801 730 618 |
| Information: | Badrilla Ltd | www.badrilla.com |

Section 2: Hazards Identification

Classification of the Substance or Mixture:

Classification according to Regulation (EC) No 1272/2008 [CLP]:

Physical hazards

Flammable solids Category 2

Health Hazards

Eye irritation Category 2, H319

Acute oral toxicity Category 4

Acute Inhalation Toxicity - Dusts and Mists Category 4

Skin Corrosion/irritation Category 2

Serious Eye Damage/Eye Irritation Category 1

Specific target organ toxicity - (single exposure) Category 3

Environmental Hazards

Chronic aquatic toxicity Category 3

Classification according to EU Directives 67/548/EEC or 1999/45/EC

Xi Irritant R36

Label Elements:

Labeling according to Regulation (EC) No 1272/2008 [CLP]:

Pictogram



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Hazard statement(s)

H319 - Causes serious eye irritation.
 H228 - Flammable solid
 H302 - Harmful if swallowed
 H335 - May cause respiratory irritation
 H315 - Causes skin irritation
 H332 - Harmful if inhaled
 H318 - Causes serious eye damage
 H412 - Harmful to aquatic life with long lasting effects

Precautionary Statements

P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
 P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
 P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
 P210 - Keep away from heat/sparks/open flames/hot surfaces. - No smoking
 P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing
 P310 - Immediately call a POISON CENTER or doctor/ physician

2.3. Other hazards

No information available

Section 3: Composition/ Information on Ingredients

| CAS# RTECS# | Hazardous Components (Chemical Name)/ REACH Registration No. | Concentration | EC No./ EC Index No. | GHS Classification |
|------------------------|--|---------------|-------------------------|--|
| 7365-45-9 TL6809000 | 4-(2-Hydroxyethyl)piperazine-1-ethanesulfonic acid | 0-10% | 230-907-9 | - |
| 60-00-4 AH4025000 | Ethylenediaminetetraacetic acid | 0-10% | 200-449-4 | Eye Irrit. 2; H319 Xi, R36 |
| 151-21-3 | Sodium Dodecyl Sulphate | 0-10% | 205-788-1 | Flam. Sol. 2 (H228) Acute Tox. 4 (H302) Skin Irrit. 2 (H315) Eye Irrit. 1 (H318) Acute Tox. 4 (H332) Resp. Irrit. 3 (H335) Aquatic Chronic 3 (H412) |

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Section 4: First Aid Measures

4.1 Description of First Aid Measures

| | |
|--------------------------|---|
| In Case of Inhalation: | Remove to fresh air. If not breathing, give artificial respiration or give oxygen by trained personnel. Get immediate medical attention. |
| In Case of Skin Contact: | Immediately wash skin with soap and plenty of water for at least 15 minutes. Remove contaminated clothing. Get medical attention if symptoms occur. Wash clothing. |
| In Case of Eye Contact: | Hold eyelids apart and flush eyes with plenty of water for at least 15 minutes. Have eyes examined and tested by medical personnel. |
| In Case of Ingestion: | Wash out mouth with water provided person is conscious. Never give anything by mouth to an unconscious person. Get medical attention. Do NOT induce vomiting unless directed to do so by medical personnel. |

Section 5: Fire Fighting Measures

5.1. Extinguishing media

Suitable Extinguishing Media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

Extinguishing media which must not be used for safety reasons

No information available.

5.2. Special hazards arising from the substance or mixture

Flammable. Dust can form an explosive mixture in air. Keep product and empty container away from heat and sources of ignition.

Hazardous Combustion Products

Carbon monoxide (CO), Carbon dioxide (CO₂), Sulphur oxides, Sodium oxides.

5.3. Advice for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

6.3. Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Keep in suitable, closed containers for disposal.

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

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Section 7: Handling and Storage

7.1. Precautions for safe handling

Wear personal protective equipment. Ensure adequate ventilation. Do not get in eyes, on skin, or on clothing. Avoid ingestion and inhalation. Avoid dust formation.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed in a dry, cool and well-ventilated place. Flammables area.

7.3. Specific end use(s)

Use in laboratories

Section 8: Exposure Controls/Personal Protection

8.1. Control parameters

Exposure limits - This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies

Biological limit values

This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Monitoring methods

BS EN 14042:2003 Title Identifier: Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents. MDHS14/3 General methods for sampling and gravimetric analysis of respirable and inhalable dust

Derived No Effect Level (DNEL) - No information available

| Route of exposure | Acute effects (local) | Acute effects (systemic) | Chronic effects (local) | Chronic effects (systemic) |
|-------------------|-----------------------|--------------------------|-------------------------|----------------------------|
| Oral | - | - | - | - |
| Dermal | - | - | 4060 mg/kg | |
| Inhalation | - | - | - | 285 mg/m ³ |

Predicted No Effect Concentration (PNEC)

No information available.

| | |
|----------------------|-------------|
| Fresh water | 0.137 mg/L |
| Fresh water sediment | 4.82 mg/kg |
| Marine water | 0.0137 mg/L |

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According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | |
|---------------------------------|-------------|
| Marine water sediment | 0.482 mg/kg |
| Water Intermittent | 0.055 mg/L |
| Microorganisms in sewage treat. | 1084 mg/L |
| Soil (Agriculture) | 0.882 mg/kg |

8.2. Exposure controls

Engineering Measures

Use explosion-proof electrical/ventilating/lighting/equipment. Ensure that eyewash stations and safety showers are close to the workstation location. Wherever possible, engineering control measures such as the isolation or enclosure of the process, the introduction of process or equipment changes to minimise release or contact, and the use of properly designed ventilation systems, should be adopted to control hazardous materials at source.

Personal protective equipment

Eye Protection Goggles (European standard - EN 166)

Hand Protection Protective gloves: Inspect gloves before use. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves (Refer to manufacturer/supplier for information). Ensure gloves are suitable for the task: Chemical compatibility, Dexterity, Operational conditions, User susceptibility, e.g. sensitisation effects, also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion. Remove gloves with care avoiding skin contamination.

Skin and body protection Long sleeved clothing

Respiratory Protection When workers are facing concentrations above the exposure limit they must use appropriate certified respirators. To protect the wearer, respiratory protective equipment must be the correct fit and be used and maintained properly

Small scale/Laboratory use Use a NIOSH/MSHA or European Standard EN 149:2001 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. **Recommended half mask:-** Particle filtering: EN149:2001. When RPE is used a face piece Fit Test should be conducted

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice.

Environmental exp. controls Prevent product from entering drains. Do not allow material to contaminate ground water system.

Section 9: Physical and Chemical Properties

9.1 Information on Basic Physical and Chemical Properties

Physical States: Gas Liquid Solid
 Appearance and Odor: Solution

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According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | | |
|-----------------------------------|----------|---------------|
| pH: | 7.5 | |
| Melting Point: | No data. | |
| Boiling Point: | No data. | |
| Flash Pt: | No data. | |
| Evaporation Rate: | No data. | |
| Explosive Limits: LEL: | No data. | UEL: No data. |
| Vapor Pressure (vs. Air or mmHg): | No data. | |
| Vapor Density (vs. Air = 1): | No data. | |
| Specific Gravity (Water = 1): | No data. | |
| Solubility in Water: | No data. | |
| Autoignition Pt: | No data. | |

9.2 Other Information

Percent Volatile: No data.

Section 10: Stability and Reactivity

10.1 Reactivity: No data available.

10.2 Stability: Unstable [] Stable [X]

10.3 Stability Note(s): Stable if stored in accordance with information listed on the product insert.
Polymerization: Will occur [] Will not occur [X]

10.4 Conditions To Avoid: No data available.

10.5 Incompatibility Strong oxidizing agents. Strong acids. Strong bases.

10.6 Hazardous No data available.
Decomposition Or Byproducts: Carbon monoxide (CO). Carbon dioxide (CO₂). Sulfur oxides. Sodium oxides.

Section 11: Toxicological Information

See table below

S-Palmitoylation Kit Buffer A / Binding Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| Toxicity | Hepes | EDTA | SDS |
|-----------------------------------|-----------------------------------|---|---|
| Acute toxicity | LD50 Dermal - Rat - > 2,000 mg/kg | LD50 Oral - rat - male and female - 4,500 mg/kg | Oral Cat 4 Dermal Criteria not met Inhalation Cat 4 |
| Skin corrosion/irritation | No skin irritation | No skin irritation | Cat 2 |
| Serious eye damage/irritation | No eye irritation | Eye irritation - Rabbit | Cat 1 |
| Respiratory or skin sensitization | No skin sensitisation | No skin sensitisation | Criteria not met |
| Germ cell mutagenicity | Negative | Negative | Criteria not met |
| Carcinogenicity | Negative | Negative | Criteria not met |
| Reproductive toxicity | Negative | Negative | Criteria not met |
| STOT-single exposure | - | No data | Cat 3 |
| STOT-repeated exposure | - | No data | Criteria not met |
| Aspiration hazard | - | No data | No information |
| Additional Information | No repeated dose toxicity | - | - |

Section 12: Ecological Information

12.1 Toxicity:

Avoid release into the environment. Runoff from fire control or dilution water may cause pollution. Contains a substance which is harmful to aquatic organisms.

12.2 Persistence and Degradability:

No data available.

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According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | |
|---|---|
| <u>12.3 Bioaccumulative Potential:</u> | Expected to be biodegradable. Soluble in water, Persistence is unlikely, based on information available. |
| <u>12.4 Mobility in Soil:</u> | The product is water soluble, and may spread in water systems . Will likely be mobile in the environment due to its water solubility. Highly mobile in soils. |
| <u>12.5 Results of PBT and vPvB assessment:</u> | No data available. |
| <u>12.6 Other adverse effects:</u> | No data available. |

Section 13: Disposal Considerations

13.1. Waste treatment methods

Waste from Residues / Unused Products

Waste is classified as hazardous. Dispose of in accordance with the European Directives on waste and hazardous waste. Dispose of in accordance with local regulations.

Contaminated Packaging

Dispose of this container to hazardous or special waste collection point. Empty containers retain product residue, (liquid and/or vapor), and can be dangerous. Keep product and empty container away from heat and sources of ignition.

European Waste Catalogue (EWC) According to the European Waste Catalogue, Waste Codes are not product specific, but application specific.

Other Information Do not dispose of waste into sewer. Waste codes should be assigned by the user based on the application for which the product was used. Can be incinerated, when in compliance with local regulations. Do not empty into drains. Do not let this chemical enter the environment.

Section 14: Transport Information

14.1 LAND TRANSPORT (US DOT):

| | |
|---------------------------|----------------------|
| DOT Proper Shipping Name: | Not dangerous goods. |
| DOT Hazard Class: | UN/NA Number: |

14.2 LAND TRANSPORT (European ADR/RID):

| |
|---------------------------------|
| ADR/RID Shipping Name: |
| Not dangerous goods. UN Number: |
| Hazard Class: |

14.3 AIR TRANSPORT (ICAO/IATA):

| | |
|-----------------------------------|--|
| ICAO/IATA Shipping Name: | Not dangerous goods. |
| Additional Transport Information: | Transport in accordance with local, state, and national regulations. |

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Section 15: Regulatory Information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

International Inventories X = listed

| Component | EINECS | ELINCS | NLP | TSCA | DSL | NDSL | PICCS | ENCS | IECSC | AICS | KECL |
|-------------------------|-----------|--------|-----|------|-----|------|-------|------|-------|------|------|
| Sodium dodecyl sulphate | 205-788-1 | - | | X | X | - | X | X | X | X | X |

National Regulations

| Component | Germany - Water Classification (VwVwS) | Germany - TA-Luft Class |
|-------------------------|--|-------------------------|
| Sodium dodecyl sulphate | WGK 2 | |

Take note of Control of Substances Hazardous to Health Regulations (COSHH) 2002 and 2005 Amendment. Take note of Dir 94/33/EC on the protection of young people at work Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work

15.2. Chemical safety assessment

A Chemical Safety Assessment/Report (CSA/CSR) has not been conducted

Section 16: Other Information

Full Text of H-/EUH-Statements Referred to Under Section 3

H228 - Flammable solid
H302 - Harmful if swallowed
H332 - Harmful if inhaled
H315 - Causes skin irritation
H318 - Causes serious eye damage
H335 - May cause respiratory irritation
H412 - Harmful to aquatic life with long lasting effects

Legend

DNEL - Derived No Effect Level
ENCS - Japanese Existing and New Chemical Substances
PNEC - Predicted No Effect Concentration
RPE - Respiratory Protective Equipment **LD50** - Lethal Dose 50%
IECSC - Chinese Inventory of Existing Chemical Substances
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
AICS - Australian Inventory of Chemical Substances
PBT - Persistent, Bioaccumulative, Toxic
OECD - Organisation for Economic Co-operation and Development
ATE - Acute Toxicity Estimate

KECL - Korean Existing and Evaluated Chemical Substances
vPvB - very Persistent, very Bioaccumulative
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ADR - European Agreement Concerning the International Carriage of Dangerous Goods by Road
ICAO/IATA - International Civil Aviation Organization/International Air Transport Association
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
VOC - Volatile Organic Compounds
BCF - Bioconcentration factor

Key literature references and sources for data

Suppliers safety data sheet, Chemadvisor - LOLI, Merck index, RTECS

S-Palmitoylation Kit: Thiol Blocking Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

Product identifiers

Product name : Thiol Blocking Reagent
Product Number : K010-312B
Brand : Badrilla
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No. : 541-59-3

Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

Details of the supplier of the safety data sheet

Company Name: Badrilla
15 Queen Square
Leeds LS2 8AJ
United Kingdom

Web site address: www.badrilla.com
E-mail address : info@badrilla.com

Emergency telephone number

Emergency contact: Badrilla Ltd +44 7801 730 618
Information: Badrilla Ltd www.badrilla.com

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 3), H301
Skin corrosion (Category 1B), H314
Skin sensitisation (Category 1), H317
For the full text of the H-Statements mentioned in this Section, see Section 16.

Classification according to EU Directives 67/548/EEC or 1999/45/EC

T Toxic R25, R34, R43
For the full text of the R-phrases mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word Danger
Hazard statement(s)
H301 Toxic if swallowed.

S-Palmitoylation Kit: Thiol Blocking Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 2: Hazards Identification

| | |
|----------------------------|--|
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| Precautionary statement(s) | |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P301 + P310 | IF SWALLOWED: Immediately call a POISON CENTER or doctor/physician. |
| P305 + P351 + P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| P310 | Immediately call a POISON CENTER or doctor/ physician. |

Supplemental
Hazard Statements: None

2.3 Other hazards

Lachrymator.

Section 3: Composition/ Information on Ingredients

3.1 Substances

Synonyms :2,5-Pyrroledione

Formula :C₄H₃NO₂
Molecular Weight :97.07 g/mol
CAS-No. :541-59-3
EC-No. :208-787-4

Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component | Classification | Concentration |
|--------------------------------------|---|---------------|
| Maleimide | | |
| CAS-No. 541-59-3 EC-No. 208-787-4 | Acute Tox. 3; Skin Corr. 1B; Skin Sens. 1; H301, H314, H317 | <= 100 % |

Hazardous ingredients according to Directive 1999/45/EC

| Component | Classification | Concentration |
|--------------------------------------|--------------------|---------------|
| Maleimide | | |
| CAS-No. 541-59-3 EC-No. 208-787-4 | T, R25 - R34 - R43 | <= 100 % |

For the full text of the H-Statements and R-Phrases mentioned in this Section, see Section 16

S-Palmitoylation Kit: Thiol Blocking Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 4: First Aid Measures

4.1 Description of first aid measures General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Take off contaminated clothing and shoes immediately. Wash off with soap and plenty of water. Take victim immediately to hospital. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

no data available

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Carbon oxides, nitrogen oxides (NO_x)

5.3 Advice for firefighters

Wear self contained breathing apparatus for fire fighting if necessary.

5.4 Further information

no data available

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

S-Palmitoylation Kit: Thiol Blocking Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. Normal measures for preventive fire protection.

For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

Personal protective equipment

Eye/face protection

Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatriil® (KCL 740 / Aldrich Z677272, Size M)

S-Palmitoylation Kit: Thiol Blocking Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Splash contact Material: Nitrile rubber
Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

| | |
|--|--|
| a) Appearance | Form: crystalline Colour: beige |
| b) Odour | no data available |
| c) Odour Threshold | no data available |
| d) pH | no data available |
| e) Melting point/ freezing point | Melting point/range: 91 - 93 °C - lit. |
| f) Initial boiling point and boiling range | no data available |
| g) Flash point | no data available |
| h) Evaporation rate | no data available |
| i) Flammability (solid, gas) | no data available |
| j) Upper/lower flammability or explosive limits | no data available |
| k) Vapour pressure | 8 hPa at 115 °C |
| l) Vapour density | no data available |
| m) Relative density | 1.337 g/mL at 25 °C |

S-Palmitoylation Kit: Thiol Blocking Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | |
|------------------------------|-------------------|
| n) Water solubility | no data available |
| o) Partition coefficient: | |
| n- octanol/water | no data available |
| p) Auto-ignition temperature | no data available |
| q) Decomposition temperature | no data available |
| r) Viscosity | no data available |
| s) Explosive properties | no data available |
| t) Oxidizing properties | no data available |

9.2 Other safety information

no data available

Section 10: Stability and Reactivity

10.1 Reactivity

no data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

no data available

10.4 Conditions to avoid

no data available

10.5 Incompatible materials

Strong oxidizing agents, Strong acids, Strong bases, Strong reducing agents

10.6 Hazardous decomposition products

Other decomposition products - no data available

In the event of fire: see section 5

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - mouse - 80 mg/kg

Skin corrosion/irritation

no data available

Serious eye damage/eye irritation

no data available

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Respiratory or skin sensitisation Germ cell mutagenicity

no data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

Reproductive toxicity - mouse - Intraperitoneal

Effects on Fertility: Post-implantation mortality (e.g., dead and/or resorbed implants per total number of implants).

Developmental Toxicity - mouse - Intraperitoneal

Specific Developmental Abnormalities: Other developmental abnormalities.

Specific target organ toxicity - single exposure

no data available

Specific target organ toxicity - repeated exposure

no data available

Aspiration hazard

no data available

Additional Information

RTECS: ON4800000

Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., Cough, Shortness of breath, Headache, Nausea

Section 12: Ecological Information

12.1 Toxicity

no data available

12.2 Persistence and degradability

no data available

12.3 Bioaccumulative potential

no data available

12.4 Mobility in soil

no data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

no data available

Section 13: Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

S-Palmitoylation Kit: Thiol Blocking Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 14: Transport Information

14.1 UN number

ADR/RID: 2923 IMDG: 2923 IATA: 2923

14.2 UN proper shipping name

ADR/RID: CORROSIVE SOLID, TOXIC, N.O.S. (Maleimide)
IMDG: CORROSIVE SOLID, TOXIC, N.O.S. (Maleimide)
IATA: Corrosive solid, toxic, n.o.s. (Maleimide)

14.3 Transport hazard class(es)

ADR/RID: 8 (6.1)
IMDG: 8 (6.1)
IATA: 8 (6.1)

14.4 Packaging group

ADR/RID: II
IMDG: II
IATA: II

14.5 Environmental hazards

ADR/RID: no
IMDG Marine pollutant: no
IATA: no

14.6 Special precautions for user

no data available

Section 15: Regulatory Information

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

no data available

15.2 Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

| | |
|------------|--|
| Acute Tox. | Acute toxicity |
| H301 | Toxic if swallowed. |
| H314 | Causes severe skin burns and eye damage. |
| H317 | May cause an allergic skin reaction. |
| Skin Corr. | Skin corrosion |
| Skin Sens. | Skin sensitisation |

Full text of R-phrases referred to under sections 2 and 3

| | |
|-----|--|
| T | Toxic |
| R25 | Toxic if swallowed. |
| R34 | Causes burns. |
| R43 | May cause sensitisation by skin contact. |

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifiers

Product name : Thiol Cleavage Reagent
Product Number : K010-312D
Brand : Badrilla
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No. : 5470-11-1

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company Name: Badrilla
15 Queen Square
Leeds LS2 8AJ
United Kingdom

Web site address: www.badrilla.com
E-mail address : info@badrilla.com

Emergency telephone number

Emergency contact: Badrilla Ltd +44 7801 730 618
Information: Badrilla Ltd +44 1937 572 179

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Corrosive to metals (Category 1), H290
Acute toxicity, Oral (Category 4), H302
Acute toxicity, Dermal (Category 4), H312
Skin irritation (Category 2), H315
Eye irritation (Category 2), H319
Skin sensitisation (Category 1), H317
Carcinogenicity (Category 2), H351
Specific target organ toxicity
- repeated exposure (Category 2), H373

Acute aquatic toxicity (Category 1), H400
Chronic aquatic toxicity (Category 1), H410

For the full text of the H-Statements mentioned in this Section, see Section 16.

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



| | |
|--------------------------------|--|
| Signal word | Warning |
| Hazard statement(s) | |
| H290 | May be corrosive to metals. |
| H302 + H312 | Harmful if swallowed or in contact with skin |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| Precautionary statement(s) | |
| P260 | Do not breathe dust/ fume/ gas/ mist/ vapours/ spray. |
| P280 | Wear protective gloves/ protective clothing/ eye protection/ face protection. |
| P301, P312, P330 | IF SWALLOWED: Call a POISON CENTER/doctor if you feel unwell. Rinse mouth. |
| P305, P351, P338 | IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. |
| Supplemental Hazard Statements | none |

2.2 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 3: Composition/ Information on Ingredients

3.1 Substances

| | | |
|-------------|---|---------------------------|
| Synonyms | : | Hydroxylammonium chloride |
| Formula | : | H3NO · HCl |
| Mol. weight | : | 69.49 g/mol |
| CAS-No. | : | 5470-11-1 |
| EC-No. | : | 226-798-2 |
| Index-No. | : | 612-123-00-2 |

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component | Classification | Concentration |
|------------------------------------|---|---------------|
| Hydroxylamine hydrochloride | | |
| CAS-No. 5470-11-1 | Met. Corr. 1; Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2; Skin Sens. 1; Carc. 2; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H290, H302, H312, H315, H319, H317, H351, H373, H400, H410 M-Factor - Aquatic Acute: 10 | <= 100 % |
| EC-No. 226-798-2 | | |
| Index-No. 612-123-00-2 | | |

For the full text of the H-Statements mentioned in this Section, see Section 16.

Section 4: First Aid Measures

4.1 Description of first aid measures General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled - If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact - Wash off with soap and plenty of water. Consult a physician.

In case of eye contact - Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed - Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

Container explosion may occur under fire conditions.

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

May explode when heated.

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Wear respiratory protection. Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Air and moisture sensitive.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection - Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection - Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

- | | |
|--------------------|------------------------------------|
| a) Appearance | Form: crystalline Colour: white |
| b) Odour | No data available |
| c) Odour Threshold | No data available |

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | | |
|---|------------------------------|--|
| d) pH | 2.5 - 3.5 at 50 g/l at 20 °C | |
| e) Melting point/freezing point | | Melting point/range: 155 - 157 °C - dec |
| f) Initial boiling point and boiling range | | No data available |
| g) Flash point | | No data available |
| h) Evaporation rate | | No data available |
| i) Flammability (solid, gas) | | No data available |
| j) Upper/lower flammability or explosive limits | | No data available |
| k) Vapour pressure | | No data available |
| l) Vapour density | | No data available |
| m) Relative density | | 1.67 g/cm ³ at 25 °C |
| n) Water solubility | | soluble |
| o) Partition coefficient: n- octanol/water | | No data available |
| p) Auto-ignition temperature | | No data available |
| q) Decomposition temperature | | > 150 °C - Heating may cause an explosion. |
| r) Viscosity | | No data available |
| s) Explosive properties | | No data available |
| t) Oxidizing properties | | No data available |

9.2 Other safety information

No data available

Section 10: Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

May explode when heated.

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

Air Exposure to moisture May be unstable at temperatures above: 75° C

10.5 Incompatible materials

Strong oxidizing agents, phosphorous pentachloride, Calcium, Anhydrous copper(II) sulfate

10.6 Hazardous decomposition products

Other decomposition products - No data available

Hazardous decomposition products formed under fire conditions. - Nitrogen oxides (NO_x), Hydrogen chloride gas

In the event of fire: see section 5

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 11: Toxicological Information

11.1 Information on toxicological effects Acute toxicity

LD50 Oral - Rat - 600 mg/kg

Dermal: No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation Germ cell mutagenicity

Rat Embryo

Morphological transformation.

Hamster Lungs

Sister chromatid exchange

Carcinogenicity

Suspected human carcinogens

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

May cause damage to organs through prolonged or repeated exposure.

Aspiration hazard

No data available

Additional Information

RTECS: NC3675000

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Liver - Irregularities - Based on Human Evidence

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish LC50 - Leuciscus idus (Golden orfe) - 1 - 10 mg/l - 48.0 h

S-Palmitoylation Kit: Thiol Cleavage Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

| | |
|-------------|---|
| H290 | May be corrosive to metals. |
| H302 | Harmful if swallowed. |
| H302 + H312 | Harmful if swallowed or in contact with skin H312 Harmful in contact with skin. |
| H315 | Causes skin irritation. |
| H317 | May cause an allergic skin reaction. |
| H319 | Causes serious eye irritation. |
| H351 | Suspected of causing cancer. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |

S-Palmitoylation Kit: Acyl Preservation Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifiers

Product name : Sodium chloride
Product Number : K010-312E
Brand : Fluka
REACH No. : A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No. : 7647-14-5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses : Laboratory chemicals, Manufacture of substances

1.3 Details of the supplier of the safety data sheet

Company Name: Badrilla

15 Queen Square
Leeds LS2 8AJ
United Kingdom

Web site address: www.badrilla.com

E-mail address : info@badrilla.com

Emergency telephone number

Emergency contact: Badrilla Ltd +44 7801 730 618
Information: Badrilla Ltd www.badrilla.com

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 3: Composition/ Information on Ingredients

3.1 Substances

Formula : ClNa
Mol weight : 58.44 g/mol
CAS-No. : 7647-14-5 EC-No.: 231-598-3

No components need to be disclosed according to the applicable regulations

S-Palmitoylation Kit: Acyl Preservation Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 4: First Aid Measures

4.1 Description of first aid measures General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire Fighting Measures

5.1 Extinguishing media Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Avoid dust formation. Avoid breathing vapours, mist or gas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

S-Palmitoylation Kit: Acyl Preservation Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid formation of dust and aerosols.

Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN166(EU).

Skin protection Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory Protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

S-Palmitoylation Kit: Acyl Preservation Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Control of environmental exposure

Do not let product enter drains.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

| | | |
|--|---------|----------------------------|
| a) Appearance | Form: | solid |
| | Colour: | colourless |
| b) Odour | | No data available |
| c) Odour Threshold | | No data available |
| d) pH | | 7 |
| e) Melting point/freezing point | | 801 °C |
| f) Initial boiling point & boiling range | | 1,413 °C |
| g) Flash point | | No data available |
| h) Evaporation rate | | No data available |
| i) Flammability (solid, gas) | | No data available |
| j) Upper/lower flammability or explosive limits | | No data available |
| k) Vapour pressure | | 1.33 hPa at 865 °C |
| l) Vapour density | | No data available |
| m) Relative density | | 2.165 g/cm ³ |
| n) Water solubility | | 358 g/l at 20 °C - soluble |
| o) Partition coefficient: n- octanol/water | | No data available |
| p) Auto-ignition temperature | | No data available |
| q) Decomposition temperature | | No data available |
| r) Viscosity | | No data available |
| s) Explosive properties | | No data available |
| t) Oxidizing properties | | No data available |

9.2 Other safety information

No data available

Section 10: Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

S-Palmitoylation Kit: Acyl Preservation Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 3,550 mg/kg

LC50 Inhalation - Rat - 1 h - > 42,000 mg/m³ LD50 Dermal - Rabbit - > 10,000 mg/kg

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: VZ4725000

Vomiting, Diarrhoea, Dehydration and congestion may occur in internal organs. Hypertonic salt solutions can produce inflammatory reactions in the gastrointestinal tract., To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

12.1 Toxicity

Toxicity to fish

LC50 - Lepomis macrochirus (Bluegill) - 5,840 mg/l - 96 h

Toxicity to daphnia and other aquatic invertebrates

NOEC - Daphnia (water flea) - 1,500 mg/l - 7 d

LC50 - Daphnia magna (Water flea) - 1,661 mg/l - 48 h

S-Palmitoylation Kit: Acyl Preservation Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

No data available

Section 13: Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4 Packaging group

ADR/RID: - IMDG: - IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

S-Palmitoylation Kit: Acyl Preservation Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

S-Palmitoylation Kit: Mass Tag Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

1.1 Product identifier

| | |
|--------------------------------------|---|
| Product name | Mass Tag Reagent |
| Catalogue Number | K010-312F |
| REACH No. | A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline. |
| CAS number | 99126-64-4 |
| Product description | Not available. |
| Product type | Solid. |
| Other means of identification | - |

1.2 Relevant identified uses of the substance or mixture and uses advised against

Identified uses Use in laboratories

1.3 Details of the supplier of the safety data sheet

| | |
|---|--|
| Company Name: Badrilla 15 Queen Square Leeds LS2 8AJ United Kingdom | Web site address: www.badrilla.com E-mail address: info@badrilla.com |
|---|--|

Emergency telephone number

| | | |
|--------------------|--------------|--|
| Emergency contact: | Badrilla Ltd | +44 7801 730 618 |
| Information: | Badrilla Ltd | www.badrilla.com |

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2 Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3 Other hazards - none

Section 3: Composition/ Information on Ingredients

3.1 Substances

CAS-No. :99126-64-4

No components need to be disclosed according to the applicable regulations.

S-Palmitoylation Kit: Mass Tag Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 4: First Aid Measures

4.1 Description of first aid measures

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration.

In case of skin contact

Wash off with soap and plenty of water.

In case of eye contact

Flush eyes with water as a precaution.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire Fighting Measures

5.1 Extinguishing media

Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

Section 6: Accidental Release Measures

6.1 Personal precautions, protective equipment and emergency procedures

Avoid dust formation. Avoid breathing vapours, mist or gas. For personal protection see section 8.

6.2 Environmental precautions

Do not let product enter drains.

6.3 Methods and materials for containment and cleaning up

Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections

For disposal see section 13.

S-Palmitoylation Kit: Mass Tag Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 7: Handling and Storage

7.1 Precautions for safe handling

Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Recommended storage temperature -20 °C
Hygroscopic. Air sensitive. Handle and store under inert gas.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls

General industrial hygiene practice.

Personal protective equipment

Eye/face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

Body Protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific workplace. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Do not let product enter drains.

S-Palmitoylation Kit: Mass Tag Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

| | |
|---|-------------------------------|
| a) Appearance | Form: powder Colour: white |
| b) Odour | No data available |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | No data available |
| f) Initial boiling point and boiling range | No data available |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |
| k) Vapour pressure | No data available |
| l) Vapour density | No data available |
| m) Relative density | No data available |
| n) Water solubility | No data available |
| o) Partition coefficient: n- octanol/water | No data available |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |

9.2 Other safety information

No data available

Section 10: Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong oxidizing agents

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides Other decomposition products - No data available

In the event of fire: see section 5

S-Palmitoylation Kit: Mass Tag Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Section 12: Ecological Information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Other adverse effects

No data available

S-Palmitoylation Kit: Mass Tag Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 13: Disposal Considerations

13.1 Waste treatment methods

Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

14.1 UN number

ADR/RID: - IMDG: - IATA: -

14.2 UN proper shipping name

ADR/RID: Not dangerous goods

IMDG: Not dangerous goods

IATA: Not dangerous goods

14.3 Transport hazard class(es)

ADR/RID: -

IMDG: -

IATA: -

14.4 Packaging group

ADR/RID: -

IMDG: -

IATA: -

14.5 Environmental hazards

ADR/RID: no

IMDG Marine pollutant: no

IATA: no

14.6 Special precautions for user

No data available

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

International Chemical Weapons Convention (CWC)

Schedules of Toxic Chemicals and Precursors: Neither banned nor restricted

Restrictions on the marketing and use of certain
dangerous substances and preparations: Neither banned nor restricted

S-Palmitoylation Kit: Mass Tag Reagent

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals:

Neither banned nor restricted

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59):

This product does not contain substances of very high concern (Regulation (EC) No1907/2006 (REACH), Article 57).

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

No Further information

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: K010-312G

Product Name: S-Palmitoylation 2x Laemmli Sample Buffer

Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: For research use only, not for human or veterinary use.

Details of the Supplier of the Safety Data Sheet:

Company Name: Badrilla

15 Queen Square
Leeds LS2 8AJ
United Kingdom

Web site address : www.badrilla.com

E-mail address : info@badrilla.com

Emergency telephone number

| | | |
|--------------------|--------------|--|
| Emergency contact: | Badrilla Ltd | +44 7801 730 618 |
| Information: | Badrilla Ltd | www.badrilla.com |

Section 2: Hazards Identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No 1272/2008

Acute toxicity, Oral (Category 4), H302

Acute toxicity, Inhalation (Category 4), H332

Acute toxicity, Dermal (Category 4), H312

Skin irritation (Category 2), H315

Serious eye damage (Category 1), H318

Skin sensitisation (Category 1), H317

Specific target organ toxicity - repeated exposure (Category 2), H373

Chronic aquatic toxicity (Category 2), H411

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 Label elements

Labelling according Regulation (EC) No 1272/2008

Pictogram



Signal word

Danger

Hazard statement(s)

H302 + H312 + H332

Harmful if swallowed, in contact with skin or if inhaled

H315

Causes skin irritation.

H317

May cause an allergic skin reaction.

H318

Causes serious eye damage.

H373

May cause damage to organs through prolonged or repeated exposure.

H411

Toxic to aquatic life with long lasting effects.

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Precautionary statement(s)

| | |
|---------------------------|---|
| P261 | Avoid breathing dust/ fume/ gas/ mist/ vapours/ spray. |
| P273 | Avoid release to the environment. |
| P302 + P352 + P312 | IF ON SKIN: Wash with plenty of water. Call a POISON CENTER/doctor if you feel unwell. |
| P304 + P340 + P312 | IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/doctor if you feel unwell. |
| P305 + P351 + P338 + P310 | 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. |
| P333 + P313 | If skin irritation or rash occurs: Get medical advice/ attention. |

Supplemental Hazard Statements none

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Section 3: Composition/ Information on Ingredients

3.1 Mixtures

Hazardous ingredients according to Regulation (EC) No 1272/2008

| Component | Classification | Concentration |
|--------------------------------------|---|----------------|
| 2-Mercaptoethanol | | |
| CAS-No. 60-24-2 EC-No. 200-464-6 | Acute Tox. 3; Acute Tox. 2; Skin Irrit. 2; Eye Dam. 1; Skin Sens. 1; STOT RE 2; Aquatic Acute 1; Aquatic Chronic 1; H301, H331, H310, H315, H318, H317, H373, H400, H410 M-Factor - Aquatic Acute: 1 | >= 10 - < 20 % |
| Sodium dodecyl sulphate | | |
| CAS-No. 151-21-3 EC-No. 205-788-1 | Flam. Sol. 2; Acute Tox. 4; Skin Irrit. 2; Eye Dam. 1; STOT SE 3; Aquatic Chronic 3; H228, H302, H332, H315, H318, H335, H412 Concentration limits: 10 - < 20 %: Eye Irrit. 2, H319; >= 20 %: Eye Dam. 1, H318; | >= 3 - < 5 % |

For the full text of the H-Statements mentioned in this Section, see Section 16.

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 4: First Aid Measures

4.1 Description of first aid measures

General advice

Consult a physician. Show this safety data sheet to the doctor in attendance.

If inhaled

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

In case of skin contact

Wash off with soap and plenty of water. Consult a physician.

In case of eye contact

Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

4.3 Indication of any immediate medical attention and special treatment needed

No data available

Section 5: Fire Fighting Measures

5.1 Extinguishing media Suitable extinguishing media

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture

No data available

5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information

No data available

Section 6: Accidental Release Measures

6.1. Personal precautions, protective equipment and emergency procedures

Use personal protective equipment. Ensure adequate ventilation. Avoid dust formation.

6.2. Environmental precautions

Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information. Avoid release to the environment. Collect spillage.

6.3. Methods and material for containment and cleaning up

Soak up with inert absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal.

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

6.4. Reference to other sections

Refer to protective measures listed in Sections 8 and 13.

Section 7: Handling and Storage

7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities

Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Air and moisture sensitive.

7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

Section 8: Exposure Controls/Personal Protection

8.1 Control parameters

Components with workplace control parameters

| Component | CAS-No. | ValueForm of exposure | Control parameters | Basis |
|-----------|---------|---|----------------------|--|
| Glycerol | 56-81-5 | TWA | 10 mg/m ³ | UK. EH40 WEL - Workplace Exposure Limits |
| | Remarks | Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used | | |
| | | TWA (Mist) | 10 mg/m ³ | UK. EH40 WEL - Workplace Exposure Limits |
| | | Where no specific short-term exposure limit is listed, a figure three times the long-term exposure should be used | | |

8.2 Exposure controls

Appropriate engineering controls

Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment

Eye/face protection - Face shield and safety glasses Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

Skin protection - Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Full contact

Material: Nitrile rubber

Minimum layer thickness: 0.11 mm Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Splash contact Material: Nitrile rubber
Minimum layer thickness: 0.11 mm Break through time: 480 min
Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374
If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.

Body Protection

Complete suit protecting against chemicals, The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection

Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

Section 9: Physical and Chemical Properties

9.1 Information on basic physical and chemical properties

| | |
|--|------------------------------------|
| a) Appearance | Form: liquid Colour: colourless |
| b) Odour | unpleasant |
| c) Odour Threshold | No data available |
| d) pH | No data available |
| e) Melting point/freezing point | No data available |
| f) Initial boiling point/ range | No data available |
| g) Flash point | No data available |
| h) Evaporation rate | No data available |
| i) Flammability (solid, gas) | No data available |
| j) Upper/lower flammability or explosive limits | No data available |

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | |
|---|-------------------|
| k) Vapour pressure | No data available |
| l) Vapour density | No data available |
| m) Relative density | No data available |
| n) Water solubility | No data available |
| o) Partition coefficient: n- octanol/water | No data available |
| p) Auto-ignition temperature | No data available |
| q) Decomposition temperature | No data available |
| r) Viscosity | No data available |
| s) Explosive properties | No data available |
| t) Oxidizing properties | No data available |

9.2 Other safety information

No data available

Section 10: Stability and Reactivity

10.1 Reactivity

No data available

10.2 Chemical stability

Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions

No data available

10.4 Conditions to avoid

No data available

10.5 Incompatible materials

Strong bases, Bases, Oxidizing agents, Strong oxidizing agents, Metals

10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO_x), Sulphur oxides, Hydrogen chloride gas, Sodium oxides

Other decomposition products - No data available In the event of fire: see section 5

Section 11: Toxicological Information

11.1 Information on toxicological effects

Acute toxicity

No data available

Skin corrosion/irritation

No data available

Serious eye damage/eye irritation

No data available

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Respiratory or skin sensitisation

No data available

Germ cell mutagenicity

No data available

Carcinogenicity

IARC: No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

Additional Information

RTECS: Not available

burning sensation, Cough, wheezing, laryngitis, Shortness of breath, Headache, Weakness, Nausea, Unconsciousness, To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Kidney - Irregularities - Based on Human Evidence (Glycerol)

Section 12: Ecological Information

12.1 Toxicity

No data available

12.2 Persistence and degradability

No data available

12.3 Bioaccumulative potential

No data available

12.4 Mobility in soil

No data available

12.5 Results of PBT and vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6 Other adverse effects

Toxic to aquatic life with long lasting effects.

Section 13: Disposal Considerations

13.1 Waste treatment methods Product

Offer surplus and non-recyclable solutions to a licensed disposal company.

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Contaminated packaging

Dispose of as unused product.

Section 14: Transport Information

14.1 UN number

ADR/RID: 3082 IMDG: 3082 IATA: 3082

14.2 UN proper shipping name

ADR/RID: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Mercaptoethanol)
IMDG: ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (2-Mercaptoethanol)
IATA: Environmentally hazardous substance, liquid, n.o.s. (2-Mercaptoethanol)

14.3 Transport hazard class(es)

ADR/RID: 9 IMDG: 9 IATA: 9

14.4 Packaging group

ADR/RID: III IMDG: III IATA: III

14.5 Environmental hazards

ADR/RID: yes IMDG Marine pollutant: yes IATA: yes

14.6 Special precautions for user

Further information

EHS-Mark required (ADR 2.2.9.1.10, IMDG code 2.10.3) for single packagings and combination packagings containing inner packagings with Dangerous Goods > 5L for liquids or > 5kg for solids.

Section 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

Section 16: Other Information

Full text of H-Statements referred to under sections 2 and 3.

H228 Flammable solid.
H301 Toxic if swallowed.
H302 Harmful if swallowed.
H302 + H312
+ H332 Harmful if swallowed, in contact with skin or if inhaled
H310 Fatal in contact with skin.
H312 Harmful in contact with skin.
H315 Causes skin irritation.
H317 May cause an allergic skin reaction.
H318 Causes serious eye damage.

S-Palmitoylation Kit: 2x Laemmli Sample Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | |
|------|--|
| H319 | Causes serious eye irritation. |
| H331 | Toxic if inhaled. |
| H332 | Harmful if inhaled. |
| H335 | May cause respiratory irritation. |
| H373 | May cause damage to organs through prolonged or repeated exposure. |
| H400 | Very toxic to aquatic life. |
| H410 | Very toxic to aquatic life with long lasting effects. |
| H411 | Toxic to aquatic life with long lasting effects. |
| H412 | Harmful to aquatic life with long lasting effects. |

S-Palmitoylation Kit: Neutralisation buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 1: Identification of the Substance/Mixture and of the Company/Undertaking

Product Code: K010-312H
Product Name: Neutralisation Buffer

Relevant identified uses of the substance or mixture and uses advised against:
Relevant identified uses: For research use only, not for human or veterinary use.

Details of the Supplier of the Safety Data Sheet:

| | |
|-------------------------------|--|
| Company Name: Badrilla | Web site address : www.badrilla.com |
| 15 Queen Square | E-mail address : info@badrilla.com |
| Leeds LS2 8AJ | |
| United Kingdom | |

Emergency telephone number

| | | |
|--------------------|--------------|--|
| Emergency contact: | Badrilla Ltd | +44 7801 730 618 |
| Information: | Badrilla Ltd | www.badrilla.com |

Section 2: Hazards Identification

Classification

This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Physical Hazards

| | |
|---------------------|------------|
| Corrosive to metals | Category 1 |
|---------------------|------------|

Health Hazards

| | |
|--|--------------|
| Skin Corrosion/irritation | Category 1 A |
| Serious Eye Damage/Eye Irritation | Category 1 |
| Specific target organ toxicity (single exposure) | |
| Target Organs - Respiratory system. | Category 3 |

Label Elements

Signal Word

Danger

Hazard Statements

May be corrosive to metals
Causes severe skin burns and eye damage
May cause respiratory irritation

S-Palmitoylation Kit: Neutralisation buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Pictogram



Precautionary Statements Prevention

Do not breathe dust/fume/gas/mist/vapors/spray

Wash face, hands and any exposed skin thoroughly after handling Wear protective gloves/protective clothing/eye protection/face protection Use only outdoors or in a well-ventilated area

Keep only in original container

Response

Immediately call a POISON CENTER or doctor/physician

Inhalation

IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing

Skin

IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower Wash contaminated clothing before reuse

Eyes

IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing

Ingestion

IF SWALLOWED: Rinse mouth. DO NOT induce vomiting

Spills

Absorb spillage to prevent material damage

Storage

Store locked up

Store in a well-ventilated place. Keep container tightly closed

Store in corrosive resistant polypropylene container with a resistant inliner Store in a dry place

Disposal

Dispose of contents/container to an approved waste disposal plant

Hazards not otherwise classified (HNOC)

None identified

Section 3: Composition/ Information on Ingredients

| Component | CAS-No | Weight % |
|------------------|-----------|----------|
| Water | 7732-18-5 | 60 |
| Sodium hydroxide | 1310-73-2 | 40 |

Section 4: First Aid Measures

General Advice Take off contaminated clothing and shoes immediately.

Eye Contact Immediate medical attention is required. Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.

Skin Contact Wash off immediately with soap and plenty of water while removing all contaminated clothes and shoes. Immediate medical attention is required.

S-Palmitoylation Kit: Neutralisation buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

| | |
|--|--|
| Inhalation | Remove from exposure, lie down. Move to fresh air. If breathing is difficult, give oxygen. If not breathing, give artificial respiration. Immediate medical attention is required. |
| Ingestion | Do not induce vomiting. Clean mouth with water and drink afterwards plenty of water. Never give anything by mouth to an unconscious person. Call a physician immediately. |
| Most important symptoms/effects | Causes burns by all exposure routes. Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation. |
| Notes to Physician | Treat symptomatically |

Section 5: Fire Fighting Measures

| | |
|---|---|
| Suitable Extinguishing Media | Substance is nonflammable; use agent most appropriate to extinguish surrounding fire. |
| Unsuitable Extinguishing Media | No information available |
| Flash Point | Not applicable |
| Method - | No information available |
| Autoignition Temperature | No information available |
| Explosion Limits | |
| • Upper | No data available |
| • Lower | No data available |
| • Sensitivity to Mechanical Impact | No information available |
| • Sensitivity to Static Discharge | No information available |

Specific Hazards Arising from the Chemical

Thermal decomposition can lead to release of irritating gases and vapors. Corrosive Material.

Hazardous Combustion Products

Sodium oxides

Protective Equipment and Precautions for Firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

NFPA

| | | | |
|---------------|---------------------|--------------------|-------------------------|
| Health | Flammability | Instability | Physical hazards |
| 3 | 0 | 1 | N/A |

S-Palmitoylation Kit: Neutralisation buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 6: Accidental Release Measures

| | |
|---|---|
| Personal Precautions | Avoid contact with the skin and the eyes. Use personal protective equipment. Evacuate personnel to safe areas. Do not touch or walk through spilled material. |
| Environmental Precautions | Refer to protective measures listed in Sections 7 and 8 Should not be released into the environment. Do not flush into surface water or sanitary sewer system. See Section 12 for additional ecological information. |
| Methods for Containment and Clean Up | Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal. |

Section 7: Handling and Storage

| | |
|-----------------|--|
| Handling | Do not breathe vapors or spray mist. Do not get in eyes, on skin, or on clothing. Use only in well-ventilated areas. Wash thoroughly after handling. |
| Storage | Keep in a dry, cool and well-ventilated place. Keep container tightly closed. Corrosives area. Store in original container. |

Section 8: Exposure Controls/Personal Protection

Exposure Guidelines

| Component | ACGIH TLV | OSHA PEL | NIOSH IDLH |
|------------------|------------------------------|---|--|
| Sodium hydroxide | Ceiling: 2 mg/m ³ | (Vacated) Ceiling: 2 mg/m ³ TWA: 2 mg/m ³ | IDLH: 10 mg/m ³ Ceiling: 2 mg/m ³ |
| Component | Quebec | Mexico OEL (TWA) | Ontario TWA/EV |
| Sodium hydroxide | Ceiling: 2 mg/m ³ | Ceiling: 2 mg/m ³ | CEV: 2 mg/m ³ |

Legend

ACGIH - American Conference of Governmental Industrial Hygienists

OSHA - Occupational Safety and Health Administration

NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health

Engineering Measures Ensure that eyewash stations and safety showers are close to the workstation location.

Personal Protective Equipment

| | |
|---------------------------------|---|
| Eye/face Protection | Tightly fitting safety goggles. |
| Skin and body protection | Wear appropriate protective gloves and clothing to prevent skin exposure. |
| Respiratory Protection | Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced. |
| Hygiene Measures | When using, do not eat, drink or smoke. Remove and wash contaminated clothing before re-use. |

S-Palmitoylation Kit: Neutralisation buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 9: Physical and Chemical Properties

| | |
|---|--------------------------|
| Physical State | Liquid |
| Appearance | Clear |
| Odor | Odorless |
| Odor Threshold | No information available |
| pH | > 12.0 Alkaline |
| Melting Point/Range | -10 °C / 14 °F |
| Boiling Point/Range | >100 °C / > 212 °F |
| Flash Point | Not applicable |
| Evaporation Rate | No information available |
| Flammability (solid,gas) | No information available |
| Flammability or explosive limits | |
| Upper | No data available |
| Lower | No data available |
| Vapor Pressure | 14 mmHg |
| Vapor Density | > 1.0 |
| Relative Density | 1.32 |
| Solubility | Soluble in water |
| Partition coefficient; n-octanol/water | No data available |
| Autoignition Temperature | No information available |
| Decomposition Temperature | No information available |
| Viscosity | No information available |

Section 10: Stability and Reactivity

| | |
|---|---|
| Reactive Hazard | Yes |
| Stability | Stable under recommended storage conditions. |
| Conditions to Avoid | Exposure to air. Incompatible products. |
| Incompatible Materials | Acids, Organic materials, Metals, Aluminium, copper |
| Hazardous Decomposition Products | Sodium oxides |
| Hazardous Polymerization | Hazardous polymerization does not occur. |
| Hazardous Reactions | Corrosive to metals. |

S-Palmitoylation Kit: Neutralisation buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 11: Toxicological Information

Acute Toxicity

| | |
|----------------------------|---|
| Product Information | No acute toxicity information is available for this product |
| Oral LD50 | Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. |
| Dermal LD50 | Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg. |
| Vapor LC50 | Based on ATE data, the classification criteria are not met. ATE > 20 mg/l. |

Component Information

| Component | LD50 Oral | LD50 Dermal | LC50 Inhalation |
|------------------|------------|-----------------------|-----------------|
| Sodium hydroxide | Not listed | 1350 mg/kg (Rabbit) | Not listed |

| | |
|---|--------------------------|
| Toxicologically Synergistic Products | No information available |
|---|--------------------------|

Delayed and immediate effects as well as chronic effects from short and long-term exposure

| | |
|-------------------|-------------------------------------|
| Irritation | Causes burns by all exposure routes |
|-------------------|-------------------------------------|

| | |
|----------------------|--------------------------|
| Sensitization | No information available |
|----------------------|--------------------------|

| | |
|------------------------|--|
| Carcinogenicity | The table below indicates whether each agency has listed any ingredient as a carcinogen. |
|------------------------|--|

| Component | CAS-No | IARC | NTP | ACGIH | OSHA | Mexico |
|------------------|-----------|------------|------------|------------|------------|------------|
| Water | 7732-18-5 | Not listed | Not listed | Not listed | Not listed | Not listed |
| Sodium hydroxide | 1310-73-2 | Not listed | Not listed | Not listed | Not listed | Not listed |

| | |
|---|--|
| Mutagenic Effects | No information available |
| Reproductive Effects | No information available. |
| Developmental Effects | No information available. |
| Teratogenicity | No information available. |
| STOT - single exposure | Respiratory system |
| STOT - repeated exposure | None known |
| Aspiration hazard | No information available |
| Symptoms / effects, both acute and delayed | Product is a corrosive material. Use of gastric lavage or emesis is contraindicated. Possible perforation of stomach or esophagus should be investigated: Ingestion causes severe swelling, severe damage to the delicate tissue and danger of perforation |
| Endocrine Disruptor Information | No information available |
| Other Adverse Effects | The toxicological properties have not been fully investigated. |

S-Palmitoylation Kit: Neutralisation buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

Section 12: Ecological Information

Ecotoxicity

Contains no substances known to be hazardous to the environment or that are not degradable in waste water treatment plants. Large amounts will affect pH and harm aquatic organisms.

| Component | Freshwater Algae | Freshwater Fish | Microtox | Water Flea |
|------------------|------------------|---------------------|------------|------------|
| Sodium hydroxide | Not listed | 45.4 mg/L LC50 96 h | Not listed | Not listed |

| | |
|--------------------------------------|--|
| Persistence and Degradability | Soluble in water Persistence is unlikely based on information available. |
| Bioaccumulation/ Accumulation | No information available |
| Mobility | Will likely be mobile in the environment due to its water solubility. |

Section 13: Disposal Considerations

| | |
|-------------------------------|--|
| Waste Disposal Methods | Should not be released into the environment. |
|-------------------------------|--|

Section 14: Transport Information

DOT

| | |
|-----------------------------|---------------------------|
| UN-No | UN1824 |
| Proper Shipping Name | SODIUM HYDROXIDE SOLUTION |
| Hazard Class | 8 |
| Packing Group | II |

TDG

| | |
|-----------------------------|---------------------------|
| UN-No | UN1824 |
| Proper Shipping Name | SODIUM HYDROXIDE SOLUTION |
| Hazard Class | 8 |
| Packing Group | II |

IATA

| | |
|-----------------------------|---------------------------|
| UN-No | UN1824 |
| Proper Shipping Name | SODIUM HYDROXIDE SOLUTION |
| Hazard Class | 8 |
| Packing Group | II |

IMDG/IMO

| | |
|-----------------------------|---------------------------|
| UN-No | UN1824 |
| Proper Shipping Name | SODIUM HYDROXIDE SOLUTION |
| Hazard Class | 8 |
| Packing Group | II |

Section 15: Regulatory Information

International Inventories

| Component | TSCA | DSL | NDSL | EINECS | ELINCS | NLP | PICCS | ENCS | AICS | IECSC | KECL |
|------------------|------|-----|------|-----------|--------|-----|-------|------|------|-------|------|
| Water | X | X | - | 231-791-2 | - | | X | - | X | X | X |
| Sodium hydroxide | X | X | - | 215-185-5 | - | | X | X | X | X | X |

S-Palmitoylation Kit: Neutralisation buffer

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Legend: X - Listed

E - Indicates a substance that is the subject of a Section 5(e) Consent order under TSCA. **F** - Indicates a substance that is the subject of a Section 5(f) Rule under TSCA.

N - Indicates a polymeric substance containing no free-radical initiator in its inventory name but is considered to cover the designated polymer made with any free-radical initiator regardless of the amount used.

P - Indicates a commenced PMN substance

R - Indicates a substance that is the subject of a Section 6 risk management rule under TSCA. **S** - Indicates a substance that is identified in a proposed or final Significant New Use Rule

T - Indicates a substance that is the subject of a Section 4 test rule under TSCA.

XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B)).

Y1 - Indicates an exempt polymer that has a number-average molecular weight of 1,000 or greater.

Y2 - Indicates an exempt polymer that is a polyester and is made only from reactants included in a specified list of low concern reactants that comprises one of the eligibility criteria for the exemption rule.

U.S. Federal Regulations

TSCA 12(b) Not applicable

SARA 313 Not applicable

SARA 311/312 Hazardous Categorization

Acute Health Hazard Yes

Chronic Health Hazard No

Fire Hazard No

Sudden Release of

Pressure Hazard No

Reactive Hazard Yes

Clean Water Act

| Component | CWA - Hazardous Substances | CWA - Reportable Quantities | CWA - Toxic Pollutants | CWA - Priority Pollutants |
|------------------|----------------------------|-----------------------------|------------------------|---------------------------|
| Sodium hydroxide | X | 1000 lb | - | - |

Clean Air Act Not applicable

OSHA

Occupational Safety and Health Administration Not applicable

CERCLA

This material, as supplied, contains one or more substances regulated as a hazardous substance under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302)

| Component | Hazardous Substances RQs | CERCLA EHS RQs |
|------------------|--------------------------|----------------|
| Sodium hydroxide | 1000 lb | - |

California Proposition 65 This product does not contain any Proposition 65 chemicals

S-Palmitoylation Kit: Neutralisation Buffer

According to Regulation (EC) No. 1907/2006 as amended by (EC) No. 1272/2008

State Right-to-Know

| Component | Massachusetts | New Jersey | Pennsylvania | Illinois | Rhode Island |
|------------------|---------------|------------|--------------|----------|--------------|
| Water | - | - | X | - | - |
| Sodium hydroxide | X | X | X | - | X |

U.S. Department of Transportation

Reportable Quantity (RQ): Y
 DOT Marine Pollutant N
 DOT Severe Marine Pollutant N

U.S. Department of Homeland Security

This product does not contain any DHS chemicals.

Other International Regulations

Mexico - Grade No information available

Canada

This product has been classified in accordance with the hazard criteria of the Controlled Products Regulations (CPR) and the MSDS contains all the information required by the CPR

WHMIS Hazard Class E Corrosive material



Section 16: Other Information

Further information

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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. Badrilla and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product.