



## SAFETY DATA SHEET

Revision Date 9/2/2016

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### 1. PRODUCT AND COMPANY IDENTIFICATION

#### 1.1 Product Identification

Product Name : Orexin A (human, bovine, canine, mouse, ovine, porcine, rat) – RIA kit, Host: Rabbit  
Product Code : S-2030.0001 (RIA)  
CAS-No. : N/A

#### 1.2 Company Identification

Peninsula Laboratories International, Inc.  
305 Old County Road  
San Carlos, CA 94070  
USA

Telephone : (650) 801-6090  
Fax : (650) 595-4071

Emergency : (650) 801-6090 (8:30am-5pm Pacific Time)

#### 1.3 Recommended use and Restrictions on use

Laboratory reagent, Research Use Only

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### 2. HAZARD(S) IDENTIFICATION

#### 2.1 Classification of the mixture (Each component listed separately)

##### GHS-US Classification in accordance with 29 CFR 1910 (OSHA HCS)

##### 125 Iodine-labeled (peptide) tracer

Skin corrosion/irritation 1B, H314  
Serious eye damage/eye irritation 1, H318  
Flammable liquids 3, H226

##### Primary Antiserum for antigen of interest- lyophilized powder

Serious eye damage/eye irritation 2A, H319

##### Standard Peptide - antigen of interest- lyophilized powder

Serious eye damage/eye irritation 2B, H320

##### RIA buffer 4X concentrate

Serious eye damage/eye irritation 2A, H319

#### 2.2 GHS Label elements, including precautionary statements (Each component listed separately)

##### 125 Iodine-labeled (peptide) tracer



Hazard Pictogram :

Signal Word : Danger



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Hazard statements : H314 Causes severe skin burns and eye damage.  
H318 Causes serious eye damage.  
H226 Flammable liquid and vapor

Precautionary statements : P210 Keep away from heat/sparks/open flames/hot surfaces. - No smoking. spray.  
P233 Keep container tightly closed.  
P235 Keep cool.  
P240 Ground/bond container and receiving equipment.  
P241 Use explosion-proof electrical/ventilating/lighting/equipment.  
P242 Use only non-sparking tools.  
P243 Take precautionary measures against static discharge.  
P260 Do not breathe dust/fume/gas/mist/vapors/spray.  
P264 Wash exposed skin thoroughly after handling.  
P280 Wear protective gloves, clothing, eye protection.  
P301/P330/P331 If swallowed rinse mouth. Do not induce vomiting.  
P302/P361/P353 If on skin or hair, Remove all contaminated clothing. Rinse skin with water/shower.  
P304/P340 If inhaled, remove victim to fresh air and keep at rest in a position comfortable for breathing.  
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.  
P363 Wash contaminated clothing before reuse.  
P370/P378 In case of fire: Use water spray for extinction.  
P403 Store in a well-ventilated place.  
P405 Store locked up.  
P501 Dispose contents/container to comply with local, state and federal regulations.

### Primary Antiserum for antigen of interest- lyophilized powder



Hazard Pictogram :

Signal Word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : P264 Wash exposed skin thoroughly after handling.  
P280 Wear protective gloves, protective clothing, eye protection, face protection.  
P305/P351/P338 If in eyes, Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.  
P337/P313 If eye irritation persists, get medical advice/attention.

### Standard Peptide - antigen of interest- lyophilized powder



Hazard Pictogram :

Signal Word : Warning

Hazard statements : H320 Causes eye irritation.

Precautionary statements : P264 Wash exposed skin thoroughly after handling.



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P280 Wear protective gloves, protective clothing, eye protection, face protection.  
 P305/P351/P338 If in eyes, Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337/P313 If eye irritation persists, get medical advice/attention.

## RIA buffer 4X concentrate



Hazard Pictogram

Signal Word : Warning

Hazard statements : H319 Causes serious eye irritation.

Precautionary statements : P264 Wash exposed skin thoroughly after handling.  
 P280 Wear protective gloves, protective clothing, eye protection, face protection.  
 P305/P351/P338 If in eyes, Rinse cautiously with water for several minutes.  
 Remove contact lenses, if present and easy to do. Continue rinsing.  
 P337/P313 If eye irritation persists, get medical advice/attention.

### 2.3 Hazards not otherwise classified (HNOC) or not covered by GHS

Harmful by inhalation, ingestion, or skin absorption.  
 May cause skin irritation.  
 May cause severe eye irritation.  
 Iodine-125 Radionuclide emits gamma radiation. May cause cancer.  
 Sodium azide may react with lead and copper plumbing to form highly explosive metal azides. Rapidly absorbed through skin.

## 3. COMPOSITION/INFORMATION ON INGREDIENTS

3.1 Substance : Not applicable

3.2 Mixture :

PRINCIPLE COMPONENTS	CONCENTRATION	CAS No	GHS-US CLASSIFICATION
125-Iodine, Iodine-125 Radionuclide	10uCi	none	Not classified
Sodium Azide, NaN <sub>3</sub>	.04% in RIA buffer 4X concentrate. .3% w/w lyophilized primary antiserum	26628-22-8	Acute Tox Oral 2, Acute Tox Dermal 1; STOT RE Brain 2; Aquatic Acute 1; Aquatic Chron 1; H300, H310, H373, H410
Acetic Acid	50% in 125-Iodine-labeled tracer	64-19-7	Flam. Liq. 3, H226 Skin Corr. 1B, H314 Eye Damage 1, H318
Bovine Serum Albumin	0.4% in RIA buffer 4X concentrate. 53.8% w/w in lyophilized primary antiserum	9048-46-8	Not classified
Triton X-100	0.4% in RIA buffer 4X concentrate	9002-93-1	Acute Tox Oral 4, Eye Irritant 2A, Aquatic Acute 2, Aquatic Chronic 2, H302, H319, H411



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Sodium Phosphate monobasic monohydrate	0.26% in RIA buffer 4X concentrate. 7.1% w/w lyophilized primary antiserum, 17.3% w/w lyophilized standard peptide.	10049-21-5	Not classified
Sodium Phosphate dibasic anhydrous	1.15% in RIA buffer 4X concentrate. 31% w/w lyophilized primary antiserum, 76% w/w lyophilized standard peptide.	7558-79-4	Eye irritant 2B H320
Sodium Chloride	1.2% w/v in RIA buffer 4X concentrate. 7.8% w/w lyophilized primary antiserum.	7647-14-5	Eye irritant 2A H319

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## 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. Move out of dangerous area.

**Inhalation:** Supply fresh air breathing. Allow the victim to rest. Remove to fresh air and keep at rest in position comfortable for breathing. Immediately call a poison center or physician.

**Ingestion:** Rinse mouth. Do not induce vomiting. If vomiting occurs take measures to ensure no material is aspirated into respiratory tract. Immediately call a poison center or physician.

**In case of skin contact:** Immediately remove all contaminated clothing. Rinse with running water several minutes. Wash with soap and water. Immediately call a poison center or physician.

**In case of eye contact:** Rinse cautiously for several minutes under running water. Immediately call a poison center or physician.

### 4.2 Important Symptoms/Effects, acute and delayed

Causes severe skin burns and eye damage. Some symptoms may be delayed. May cause cancer. Please see Section 2 hazard statements.

### 4.3 Required treatment

Obtain medical assistance.

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## 5. FIRE-FIGHTING MEASURES

### 5.1 Extinguishing agents

**Suitable extinguishing agents:** Dry powder.

### 5.2 Special hazards arising from the substance or mixture

Thermal decomposition generates corrosive vapors. During fire, gases hazardous to health may be formed.

### 5.3 Advice for firefighters

**Protective equipment and precautions:** Wear self-contained breathing apparatus for fire-fighting. Use standard protective equipment including flame retardant coat, helmet with face shield, gloves, and rubber boots.



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Move containers from fire area if you can do so without risk. Use water spray to keep fire-exposed containers cool. Cool containers exposed to flames with water until well after the fire is out.

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## 6. ACCIDENTAL RELEASE MEASURES

### 6.1 Personal precautions, protective equipment and emergency procedures

#### 6.1.1 For non-emergency personnel

**Personal precautions, protective equipment, emergency procedures:** Wear respiratory protection, safety glasses, gloves, protective clothing including a full length lab coat (see section 8). Avoid dust formation. Avoid breathing dust, vapors, mist, or gas. Ensure adequate ventilation. Evacuate unnecessary personnel, upwind of spill/release.

#### 6.1.2 For emergency responders

**Personal precautions, protective equipment, emergency procedures:** Equip cleanup crew with proper protection, including: respirator, chemical safety goggles, rubber boots, rubber gloves. Ventilate area, mechanical exhaust. Avoid contact and inhalation. Do not get in eyes, on skin, on clothing. Wash thoroughly after handling.

### 6.2 Environmental precautions

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters.

### 6.3 Methods and material for containment and cleanup

Pick up and arrange disposal without creating dust. Sweep up and shovel. Do not flush with water. Blot spills with inert solids, such as sand, clay, diatomaceous earth, acid binders, universal binders, or sawdust as soon as possible. Collect spillage and absorbent material and place in closed container, store away from other materials, for proper disposal. Wash spill site thoroughly and discard contaminated cleanup items in closed container for proper disposal.

### 6.4 Disposal

Discard in radioactive waste, in accordance with local regulation.

### 6.5 References to other sections

See Section 8 Exposure Controls and personal protection.

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## 7. HANDLING AND STORAGE

### 7.1 Precautions for safe handling and hygiene

Avoid contact is skin and eyes. Avoid formation of dust and aerosols. Provide ventilation in work area to prevent vapor buildup. Do not breathe dust, mist, vapors, spray. Wash hands and other exposed skin with mild soap and water before eating, drinking, or smoking and when leaving work. Wash contaminated clothing before reusing.

### 7.2 Conditions for safe storage, and incompatibilities

Keep container closed when not in use. Store at -20C. Do not store near acids. Avoid sources of ignition. Comply with applicable regulations.

### 7.3 Specific end use(s)

Apart from uses listed in Section 1.3, no other specific uses are stipulated.



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## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### 8.1 Control Parameters

#### Acetic Acid

USA ACGIH	AGCIH TWA (ppm)	10 ppm
USA ACGIH	AGCIH STEL (ppm)	10 ppm
USA OSHA	OSHA PEL (TWA) (mg/m <sup>3</sup> )	25 mg/m <sup>3</sup>
USA OSHA	OSHA PEL (TWA) (ppm)	10 ppm

Component	CAS-No.	Value	Control parameters	Basis
Sodium azide	26628-22-8	C	0.100000 ppm	USA. NIOSH recommended exposure limits
	Remarks	Potential for dermal absorption		
		C	0.300000 mg/m <sup>3</sup>	USA. NIOSH recommended exposure limits
		Potential for dermal absorption		
		C	0.110000ppm	USA. ACGIH Threshold Limit Values
		Lung damage, cardiac impairment, not classifiable as human carcinogen		
		C	0.290000 mg/m <sup>3</sup>	USA. ACGIH Threshold Limit Values
		Lung damage, cardiac impairment, not classifiable as human carcinogen		
		C	0.1 ppm	USA. OSHA – Table Z-1 Limits for Air Contaminants - 1910.1000
		Skin notation		
		C	0.3mg/m <sup>3</sup>	USA. OSHA – Table Z-1 Limits for Air Contaminants - 1910.1000
		Skin notation		



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### 8.2 Exposure Controls

**Appropriate engineering controls** : Avoid contact with skin, eyes, and clothing. General industrial hygiene practice. Emergency eye wash fountains or eye wash bottles and safety showers should be available in the immediate vicinity of any potential exposure. Fume hood.

**Personal protective equipment** : Avoid all unnecessary exposure by using the following equipment:

**Hand protection** : Wear protective gloves, that are impermeable and resistant to acids.

**Eye/face protection** : Chemical goggles or face shield.

**Skin and body protection** : Wear suitable protective clothing, such as a laboratory coat. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection** : Wear appropriate mask.

**Other information** : Do not eat, drink, or smoke during use.

**Control of environmental exposure** : Prevent leakage and spillage if safe to do so.

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## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1 Information on basic physical and chemical properties

<b>Physical state</b>	: 125-Iodine tracer: liquid and colorless : Lyophilized reagents: powder, white
<b>Odor</b>	: 125-Iodine tracer- vinegar odor : Lyophilized reagents- no data available
<b>Odor threshold</b>	: No data available
<b>pH</b>	: No data available
<b>Relative evaporation rate</b>	: No data available
<b>Melting point</b>	: No data available
<b>Freezing point</b>	: No data available
<b>Boiling point</b>	: No data available
<b>Flash point</b>	: No data available
<b>Self-ignition temperature</b>	: No data available
<b>Decomposition temperature</b>	: No data available
<b>Flammability (solid, gas)</b>	: No data available
<b>Vapor Pressure</b>	: No data available
<b>Relative vapor density at 20C</b>	: No data available
<b>Relative density</b>	: No data available
<b>Density</b>	: 125-Iodine tracer - 1.06 r/ml
<b>Solubility</b>	: Soluble in water
<b>Log Pow</b>	: No data available



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<b>Log Kow</b>	: No data available
<b>Viscosity, kinematic</b>	: No data available
<b>Viscosity, dynamic</b>	: 125-Iodine tracer - 2 cSt
<b>Explosive properties</b>	: No data available
<b>Oxidizing properties</b>	: No data available
<b>Explosive limits</b>	: No data available

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### 10. STABILITY AND REACTIVITY

#### 10.1 Reactivity

Thermal decomposition generates: Corrosive vapors.

#### 10.2 Chemical stability

Acetic acid is stable under normal conditions. Stable under recommended storage conditions. Radioactive decay of 125-Iodine.

#### 10.3 Possibility of hazardous reactions

Acetic acid (125-Iodine tracer) reacts violently with (some) bases. Release of heat.

#### 10.4 Conditions to avoid

Avoid mixtures/contact with incompatible materials (section 10.5). Direct sunlight. Extremely high or low temperatures.

#### 10.5 Incompatible materials

Acids, metals, halogenated hydrocarbon, acid chlorides, hydrazine, dimethyl sulfate, inorganic acid chlorides, strong oxidizing agents.

#### 10.6 Hazardous decomposition products

Hazardous decomposition products formed under fire conditions- sodium oxides.  
Carbon monoxide. Carbon dioxide. Thermal decomposition generates: Corrosive vapors.  
In the event of fire, see section 5.

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### 11. TOXICOLOGICAL INFORMATION

#### 11. Information on toxicological effects

##### Acute Toxicity

##### 125-Iodine, Iodine-125 Radionuclide

Skin and eye irritant

##### Acetic Acid, 50% v/v (1+1)

LD50 oral rat 2138mg/kg

##### Water

LD50 oral rat >90000mg/kg





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### Sodium azide

LD50 oral rat 27 mg/kg

Inhalation: no data available

Skin: No data available

### Bovine Serum Albumin

No data available

**Routes of Exposure** : Inhalation, absorption (skin and eye contact), ingestion.

**Skin corrosion** : Causes severe skin burns and eye damage.

**Serious eye damage/irritation** : Causes serious eye damage.

**Respiratory or skin sensitization** : Not classified. No sensitizing effect known.

**Germ cell mutagenicity** : Not classified

**Carcinogenicity** : Not classified. May cause cancer.

**Reproductive toxicity** : Not classified.

### Specific target organ toxicity (single exposure):

**125-Iodine, Iodine-125 Radionuclide:** Thyroid gland; not classified.

### Specific target organ toxicity (repeated exposure):

**125-Iodine, Iodine-125 Radionuclide:** Thyroid gland; not classified.

**Sodium Azide** : Brain

**Aspiration hazard** : Not classified.

### Additional information

**Sodium Azide** Repeated dose Rat – male and female – Oral – LOAEL : 5mg/kg

**RTECS: #VY8050000**

Nausea, headache, vomiting, laboratory experiments in animals have shown sodium azide to produce a profound hypotensive effect, demyelination of myelinated nerve fibers in the central nervous system, testicular damage, blindness, attacks of rigidity, and hepatic and cerebral effects.

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

The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. It is the users' responsibility to determine the suitability of this information for the adoption of safety precautions as may be necessary. Peninsula Laboratories International, Inc. shall not be held liable for any damage resulting from the handling of the above product.