Tetraethylammonium perchlorate: sc-356122

MATERIAL SAFETY DATA SHEET

1 Identification of substance:

Product Name: **Tetraethylammonium perchlorate**

Catalog Number: sc-356122

Supplier: Santa Cruz Biotechnology, Inc.
2145 Delaware Avenue
Santa Cruz, California 95060
800.457.3801 or 831.457.3800

Emergency: ChemWatch
Within the US & Canada: 877-715-9305
Outside the US & Canada: +800 2436 2255
(1-800-CHEMCALL) or call +613 9573 3112

2 Hazards identification

Classification of the substance or mixture

GHS07

H315 Causes skin irritation.
H319 Causes serious eye irritation.
H335 May cause respiratory irritation.

Classification according to Directive 67/548/EEC or Directive 1999/45/EC

Xi; Irritant

R36/37/38: Irritating to eyes, respiratory system and skin.

O; Oxidizing

R8: Contact with combustible material may cause fire.

R5: Heating may cause an explosion.

Label elements

Labelling according to EU guidelines:

Code letter and hazard designation of product:
Xi Irritant
O Oxidizing

Risk phrases:
5 Heating may cause an explosion.
8 Contact with combustible material may cause fire.
36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:
17 Keep away from combustible material.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.

Hazard description:

WHMIS classification

Classification system
HMIS ratings (scale 0-4)
(Hazardous Materials Identification System)

HEALTH	2
FIRE	1
REACTIVITY	3

Health (acute effects) = 2
Flammability = 1
Reactivity = 3

Other hazards

Results of PBT and vPvB assessment
PBT: *Not applicable.*
vPvB: *Not applicable.*

3 Composition/information on ingredients

Chemical characterization: Substances
(CAS#) Description:
Tetraethylammonium perchlorate (CAS# 2567-83-1): 90%
Water (CAS# 7732-18-5): 10%
Identification number(s):
EINECS Number: *219-904-3*

4 First aid measures

Description of first aid measures
After inhalation
Supply fresh air. If required, provide artificial respiration. Keep patient warm.
Seek immediate medical advice.
After skin contact
Immediately wash with water and soap and rinse thoroughly.
Seek immediate medical advice.
After eye contact
Rinse opened eye for several minutes under running water. Then consult a doctor.
After swallowing *Seek immediate medical advice.*

5 Firefighting measures

Extinguishing media
Suitable extinguishing agents
Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Special hazards arising from the substance or mixture
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.
In case of fire, the following can be released:
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)
Hydrogen chloride (HCl)
Advice for firefighters
Protective equipment:
Wear self-contained respirator.
Wear fully protective impervious suit.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation
Environmental precautions:
Do not allow material to be released to the environment without proper governmental permits.
Methods and material for containment and cleaning up: *Ensure adequate ventilation.*
Reference to other sections
See Section 7 for information on safe handling
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

7 Handling and storage

Handling
Precautions for safe handling
Keep container tightly sealed.
Store in cool, dry place in tightly closed containers.
Ensure good ventilation at the workplace.
Information about protection against explosions and fires:
Protect from heat.
Substance/product can reduce the ignition temperature of flammable substances.
This substance is an oxidizer and its heat of reaction with reducing agents or combustibles may cause ignition.

Conditions for safe storage, including any incompatibilities
Storage
Requirements to be met by storerooms and receptacles: *Store in a cool location.*
Information about storage in one common storage facility:
Store away from flammable substances.
Store away from reducing agents.
Further information about storage conditions:
Keep container tightly sealed. Store at room temperature.
Store in cool, dry conditions in well sealed containers.

8 Exposure controls/personal protection

Additional information about design of technical systems:
Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute.

Control parameters
Components with limit values that require monitoring at the workplace: Not required.
Additional information: No data

Exposure controls
Personal protective equipment
General protective and hygienic measures
The usual precautionary measures for handling chemicals should be followed.
Keep away from foodstuffs, beverages and feed.
Remove all soiled and contaminated clothing immediately.
Wash hands before breaks and at the end of work.
Avoid contact with the eyes and skin.
Breathing equipment: Use suitable respirator when high concentrations are present.
Protection of hands:
Impervious gloves
Check protective gloves prior to each use for their proper condition.
Material of gloves
The selection of suitable gloves not only depends on the material, but also on quality.
Quality will vary from manufacturer to manufacturer.
Eye protection: Safety glasses
Body protection: Protective work clothing.

9 Physical and chemical properties

Information on basic physical and chemical properties	
General Information	
Appearance:	
Form:	Solid
Formula:	C8H20ClNO4
Weight:	229.70
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	>300°C (>572 °F)
Boiling point/Boiling range:	Not determined
Sublimation temperature / start:	Not determined
Flash point:	Not applicable
Flammability (solid, gaseous)	Contact with combustible material may cause fire.
Ignition temperature:	Not determined
Decomposition temperature:	Not determined
Auto igniting:	Not determined.
Danger of explosion:	Heating may cause an explosion.
Explosion limits:	
Lower:	Not determined
Upper:	Not determined
Vapor pressure:	Not applicable.
Density:	Not determined
Relative density	Not determined.
Vapour density	Not applicable.
Evaporation rate	Not applicable.
Solubility in / Miscibility with	
Water:	Insoluble
Segregation coefficient (n-octonol/water):	Not determined.
Viscosity:	
dynamic:	Not applicable.
kinematic:	Not applicable.
Other information	No further relevant information available.

10 Stability and reactivity

Reactivity
Chemical stability
Thermal decomposition / conditions to be avoided:
Decomposition will not occur if used and stored according to specifications.
Heating may cause an explosion.
Possibility of hazardous reactions
Reacts with reducing agents
Reacts with flammable substances

Incompatible materials:
Heat
Reducing agents
Reducing agents, easily oxidized materials
Organic materials
Metal powders
Hazardous decomposition products:
Hydrogen chloride (HCl)
Phosgene
Carbon monoxide and carbon dioxide
Nitrogen oxides

11 Toxicological information

Information on toxicological effects
Acute toxicity:
Primary irritant effect:
on the skin: Irritant to skin and mucous membranes.
on the eye: Irritating effect.
Sensitization: No sensitizing effects known.
Subacute to chronic toxicity: Perchlorates are irritating to the skin and mucous membranes.
Additional toxicological information:
To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.
No classification data on carcinogenic properties of this material is available from the EPA, IARC, NTP, OSHA or ACGIH.

12 Ecological information

Toxicity
Acquatic toxicity: No further relevant information available.
Persistence and degradability No further relevant information available.
Behavior in environmental systems:
Bioaccumulative potential No further relevant information available.
Mobility in soil No further relevant information available.
Additional ecological information:
General notes:
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Do not allow material to be released to the environment without proper governmental permits.
Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.
Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation Consult state, local or national regulations to ensure proper disposal.

Uncleaned packagings:
Recommendation: Disposal must be made according to official regulations.

14 Transport information

DOT regulations:

Hazard class:	5.1
Identification number:	UN1479
Packing group:	II
Proper shipping name (technical name):	OXIDIZING SOLID, N.O.S. (Tetraethylammonium perchlorate)
Label	5.1

Land transport ADR/RID (cross-border)

ADR/RID class:	5.1 (O2) Oxidizing substances
Danger code (Kemler):	50
UN-Number:	1479
Packaging group:	II
UN proper shipping name:	1479 OXIDIZING SOLID, N.O.S. (Tetraethylammonium perchlorate)

Maritime transport IMDG:

IMDG Class:	*5.1*
UN Number:	*1479*
Label	*5.1*
Packaging group:	*II*
Marine pollutant:	*No*
Proper shipping name:	*OXIDIZING SOLID, N.O.S. (Tetraethylammonium perchlorate)*

Air transport ICAO-TI and IATA-DGR:

ICAO/IATA Class:	*5.1*
UN/ID Number:	*1479*
Label	*5.1*
Packaging group:	*II*
Proper shipping name:	*OXIDIZING SOLID, N.O.S. (Tetraethylammonium perchlorate)*

UN "Model Regulation": *UN1479, OXIDIZING SOLID, N.O.S., 5.1, II*
Special precautions for user *Warning: Oxidizing substances*
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code *Not applicable.*

15 Regulatory information

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

Product related hazard informations:

Hazard symbols:
Xi Irritant
O Oxidizing

Risk phrases:
5 Heating may cause an explosion.
8 Contact with combustible material may cause fire.
36/37/38 Irritating to eyes, respiratory system and skin.

Safety phrases:
17 Keep away from combustible material.
26 In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
37 Wear suitable gloves.

National regulations
All components of this product are listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical substance Inventory.

Information about limitation of use: *For use only by technically qualified individuals.*
Chemical safety assessment: *A Chemical Safety Assessment has not been carried out.*

16 Other information:

The above information is believed to be correct but does not purport to be complete and should be used only as a guide. The burden of safe use of this material rests entirely with the user.

03/15/2013