Acesulfame Potassium

sc-210736

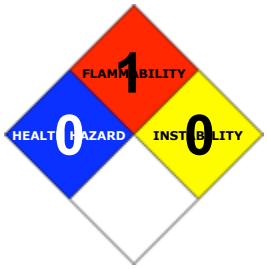
Material Safety Data Sheet

Hazard Alert Code Key:	EXTREME	HIGH	MODERATE	LOW

Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME
Acesulfame Potassium

STATEMENT OF HAZARDOUS NATURE
CONSIDERED A HAZARDOUS SUBSTANCE ACCORDING TO OSHA 29 CFR 1910.1200.

NFPA


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

SYNONYMS
C4-H4-N-O4-S.K, "1, 2, 3-oxathiazin-4(3H)-one, 6-methyl-, 2, 2-dioxide, potassium salt", "acesulfame potassium", "6-methyl-3, 4-dihydro-1, 2, 3-oxathiazin-4-one 2, 2-dioxide potassium", salt, "potassium acesulfame", Sunette, "Sunnette (sic)", "Sweet One", HOE-095K, "non-nutritive artificial sweetener"

Section 2 - HAZARDS IDENTIFICATION

CHEMWATCH HAZARD RATINGS

		Min	Max
Flammability:	1		
Toxicity:	2		
Body Contact:	0		
Reactivity:	0		
Chronic:	0		

Min/Nil=0
Low=1
Moderate=2
High=3
Extreme=4

CANADIAN WHMIS SYMBOLS
None

EMERGENCY OVERVIEW
RISK

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED
■ Although ingestion is not thought to produce harmful effects, the material may still be damaging to the health of the individual following ingestion, especially where pre-existing organ (e.g. liver, kidney) damage is evident.
■ Considered an unlikely route of entry in commercial/industrial environments.
■ The material is moderately discomforting.
■ Acute potassium poisoning after swallowing is rare, because vomiting usually occurs and renal excretion is fast.
Potassium causes a slow, weak pulse, irregularities in heart rhythm, heart block and an eventual fall in blood pressure.

EYE
■ Although the material is not thought to be an irritant, direct contact with the eye may produce transient discomfort characterized by tearing or conjunctival redness (as with windburn).
■ Generated dust may be discomforting.

SKIN
■ The material is not thought to produce adverse health effects or skin irritation following contact (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting.
■ The material may be mildly discomforting.

INHALED
■ The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
■ The dust may be discomforting.
■ Persons with impaired respiratory function, airway diseases and conditions such as emphysema or chronic bronchitis, may incur further disability if excessive concentrations of particulate are inhaled.

CHRONIC HEALTH EFFECTS
■ Principal routes of exposure are by accidental skin and eye contact andinhalation of generated dusts.
No treatment related histopathological changes and, in particular, no evidence of an increase in the incidence or alteration of neoplasms were noted following a long-term feeding study in rats.
The absence of mutagenic activity in several in vitro and in vivo assays together with negative results in a two year study in rats indicates that acesulfame K is devoid of mutagenic/ carcinogenic activity.
Early animal studies suggested that acesulfame-K may induce lung and other tumours and leukaemia and chronic respiratory disease. These studies may have been flawed in their design and in their interpretation.

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
acesulfame-K	55589-62-3	>98

Section 4 - FIRST AID MEASURES

SWALLOWED
· Immediately give a glass of water. · First aid is not generally required. If in doubt, contact a Poisons Information Center or a doctor.

EYE
■ If this product comes in contact with the eyes: · Wash out immediately with fresh running water. · Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.

SKIN
■ If skin contact occurs: · Immediately remove all contaminated clothing, including footwear · Flush skin and hair with running water (and soap if available).

INHALED
· If dust is inhaled, remove from contaminated area. · Encourage patient to blow nose to ensure clear passage of breathing. · If irritation or discomfort persists seek medical attention.

NOTES TO PHYSICIAN
■ Treat symptomatically.
In rats greater than 95% of labelled acesulfame was recovered in urine and

cage washings after a single oral dose of 15 mg. The faeces contained from 0.95-2.86% of the label. Excretion was rapid with greater than 92% of the dose being excreted within 24 hours. Excretion was biphasic. The half-life for the rapid phase was 4-4.5 hours and for the slower phase (accounting for less than 0.5% of the dose), 109-257 hours.

Section 5 - FIRE FIGHTING MEASURES

Vapour Pressure (mmHG):	Negligible
Upper Explosive Limit (%):	Not available.
Specific Gravity (water=1):	1.81
Lower Explosive Limit (%):	Not available

EXTINGUISHING MEDIA
· Water spray or fog.
· Foam.

FIRE FIGHTING
· Use water delivered as a fine spray to control fire and cool adjacent area.
· DO NOT approach containers suspected to be hot.

GENERAL FIRE HAZARDS/HAZARDOUS COMBUSTIBLE PRODUCTS
· Solid which exhibits difficult combustion or is difficult to ignite.
· Avoid generating dust, particularly clouds of dust in a confined or unventilated space as dusts may form an explosive mixture with air, and any source of ignition, i.e. flame or spark, will cause fire or explosion. Dust clouds generated by the fine grinding of the solid are a particular hazard; accumulations of fine dust may burn rapidly and fiercely if ignited.
Combustion products include: carbon monoxide (CO), nitrogen oxides (NOx) and sulfur oxides (SOx).

FIRE INCOMPATIBILITY
■ Avoid contamination with strong oxidizing agents as ignition may result.

PERSONAL PROTECTION
Glasses:
Safety Glasses.
Gloves:
Respirator:
Particulate

Section 6 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS
· Clean up all spills immediately.
· Avoid contact with skin and eyes.
MAJOR SPILLS
· Clear area of personnel and move upwind.
· Alert Emergency Responders and tell them location and nature of hazard.

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING
· Limit all unnecessary personal contact.
· Wear protective clothing when risk of exposure occurs.
· Use in a well-ventilated area.
· When handling DO NOT eat, drink or smoke.
· Always wash hands with soap and water after handling.
· Avoid physical damage to containers.
· Use good occupational work practice.
· Observe manufacturer's storing and handling recommendations.

RECOMMENDED STORAGE METHODS
· Polyethylene or polypropylene container.
· Packing as recommended by manufacturer.
Do NOT store in iron, zinc or aluminium containers.

STORAGE REQUIREMENTS
· Keep dry.
· Store at 4° C.
· Store in original containers.

· Keep containers securely sealed.
· No smoking, naked lights or ignition sources.
· Store in a cool, dry, well-ventilated area.
· Store away from incompatible materials.
· Protect containers against physical damage.
· Check regularly for leaks.
· Observe manufacturer's storing and handling recommendations.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m³	STEL ppm	STEL mg/m³	Peak ppm	Peak mg/m³	TWA F/CC	Notes
US - Idaho - Acceptable Maximum Peak Concentrations	acesulfame-K (Lead and its inorganic compounds (Z37.11-1969))		0.2						
Canada - Ontario Occupational Exposure Limits	acesulfame-K (Elemental lead, inorganic and organic compounds of lead, as Pb except tetraethyl lead / Plomb élémentaire, composés inorganiques et organiques du plomb, en Pb, sauf le plomb tétraéthyle)		0.05						Skin (organic compounds) / Peau (composés organiques)
US - Hawaii Air Contaminant Limits	acesulfame-K (Particulates not other wise regulated - Respirable fraction)		5						
US - Hawaii Air Contaminant Limits	acesulfame-K (Particulates not other wise regulated - Total dust)		10						
US OSHA Permissible Exposure Levels (PELs) - Table Z3	acesulfame-K (Inert or Nuisance Dust: (d) Total dust)		15						
US - Oregon Permissible Exposure Limits (Z-3)	acesulfame-K (Inert or Nuisance Dust:(d) Respirable fraction)		5						Oregon Permissible Exposure Limits (PELs) are different than the federal limits.
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US OSHA Permissible Exposure Levels (PELs) - Table Z3	acesulfame-K (Inert or Nuisance Dust: (d) Respirable fraction)		5		
Canada - Ontario Occupational Exposure Limits	acesulfame-K (Particles (Insoluble or Poorly Soluble) Not Otherwise)		10 (I)		
Canada - British Columbia Occupational Exposure Limits	acesulfame-K (Particles (Insoluble or Poorly Soluble) Not Otherwise Classified (PNOC))		10 (N)		
Canada - Ontario Occupational Exposure Limits	acesulfame-K (Specified (PNOS) / Particules (insolubles ou peu solubles) non précisées par ailleurs)		3 (R)		
US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants	acesulfame-K (Particulates not otherwise regulated Respirable fraction)		5		
US - California Permissible Exposure Limits for Chemical Contaminants	acesulfame-K (Particulates not otherwise regulated Respirable fraction)		5		(n)
US - Oregon Permissible Exposure Limits (Z-1)	acesulfame-K (Particulates not otherwise regulated (PNOR) (f) Total Dust)	-	10		Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different than the federal Limits. PNOR means “particles not otherwise regulated.”
US - Michigan Exposure Limits for Air Contaminants	acesulfame-K (Particulates not otherwise regulated, Respirable dust)		5		
US - Oregon Permissible Exposure Limits (Z-1)	acesulfame-K (Particulates not otherwise regulated (PNOR) (f) Respirable Fraction)	-	5		Bold print identifies substances for which the Oregon Permissible Exposure Limits (PELs) are different

			than the federal Limits. PNOR means “particles not otherwise regulated.”
US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants	acesulfame-K (Particulates not otherwise regulated (PNOR)(f)-Respirable fraction)	5	
Canada - Prince Edward Island Occupational Exposure Limits	acesulfame-K (Particles (Insoluble or Poorly Soluble) [NOS] Inhalable particles)	10	See Appendix B current TLV/BEI Book

ENDOELTABLE

PERSONAL PROTECTION

RESPIRATOR

•Particulate. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)

EYE

· Safety glasses.
· Safety glasses with side shields.

HANDS/FEET

■ Wear general protective gloves, e.g.. light weight rubber gloves.

OTHER

■ Overalls.
· Impervious protective clothing.
· Eyewash unit.

ENGINEERING CONTROLS

■ General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear an approved respirator.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Solid.
Mixes with water.

State	Divided solid	Molecular Weight	201.25
Melting Range (°F)	266	Viscosity	Not Applicable
Boiling Range (°F)	Not applicable	Solubility in water (g/L)	Miscible
Flash Point (°F)	397	pH (1% solution)	6.5-7.5
Decomposition Temp (°F)	437	pH (as supplied)	Not applicable
Autoignition Temp (°F)	410	Vapour Pressure (mmHG)	Negligible
Upper Explosive Limit (%)	Not available.	Specific Gravity (water=1)	1.81
Lower Explosive Limit (%)	Not available	Relative Vapor Density (air=1)	>1
Volatile Component (%vol)	Negligible	Evaporation Rate	Not available

APPEARANCE

Colourless to white crystalline, odourless powder; mixes with water. Soluble in DMF, DMSO, alcohol/glycerin/water. Water solubilities (g/l): deg C: 0 10 20 30 40 50 70 100 g/l: 150 210 270 360 460 580 830 1300 Solubility (20 C) g/l: methanol 10, ethanol (anhydrous) 1, glycerol (anhydrous) 30, glycerol/water (80:20, v/v) 82; (50:50) 162 acetone 0.8, glacial acetic acid 130 Solubility (23 C) g/l ethanol/water (80:20, v/v) 46, (60:40) 10, (40:60) 155, (20:80) 221 Bulk density 1.1-1.3 kg/dm3

Section 10 - CHEMICAL STABILITY

CONDITIONS CONTRIBUTING TO INSTABILITY

· Presence of incompatible materials.
· Product is considered stable.

STORAGE INCOMPATIBILITY

■ Avoid reaction with oxidizing agents.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

acesulfame-K

TOXICITY AND IRRITATION

ACESULFAME-K:
■ unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY	IRRITATION
Oral (Rat) LD50: 7431 mg/kg*	Eye (rabbit): non-irritating **
	Skin (rabbit): non-irritating **

ADI: 15 mg/kg body weight
* Merck Index
** Hoechst MSDS

CARCINOGEN

LEAD COMPOUNDS	US Environmental Defense Scorecard Recognized Carcinogens	Reference(s)	P65
LEAD COMPOUNDS	US Environmental Defense Scorecard Suspected Carcinogens	Reference(s)	P65
Lead and lead compounds (inhalation)	US Air Toxics Hot Spots TSD for Describing Available Cancer Potency Factors	IARC Class	2B
Lead and lead compounds (oral)	US Air Toxics Hot Spots TSD for Describing Available Cancer Potency Factors	IARC Class	
PBIT_(PERS~	US - Maine Chemicals of High Concern List	Carcinogen	CA Prop 65; IARC; NTP 11th ROC

Section 12 - ECOLOGICAL INFORMATION

No data

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
acesulfame-K	No Data Available	No Data Available		

Section 13 - DISPOSAL CONSIDERATIONS

Disposal Instructions

All waste must be handled in accordance with local, state and federal regulations.
· Consult manufacturer for recycling options and recycle where possible .
· Consult Waste Management Authority for disposal.

Section 14 - TRANSPORTATION INFORMATION

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: DOT, IATA, IMDG

Section 15 - REGULATORY INFORMATION

acesulfame-K (CAS: 55589-62-3,124030-40-6) is found on the following regulatory lists;
"Canada Domestic Substances List (DSL)","US Food Additive Database"

Section 16 - OTHER INFORMATION

Ingredients with multiple CAS Nos
Ingredient Name CAS acesulfame-K 55589-62-3, 124030-40-6

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■ Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
A list of reference resources used to assist the committee may be found at:
www.chemwatch.net/references.

■ The (M)SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

Issue Date: Oct-27-2008

Print Date:Jul-16-2011