

化 学 品 安 全 技 术 说 明 书

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MSDS标题

QUISQUALIC ACID MSDS报告

产品标题

B-(3,5-二氧化-1, 2, 4-氧杂重氮烷-2-基)-L-丙氨酸

CAS号

52809-07-1

化学品及企业标识

PRODUCT NAME

QUISQUALIC ACID

NFPA

Flammability	1
Toxicity	2
Body Contact	0
Reactivity	0
Chronic	0

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

PRODUCT USE

Neurological studies. Excitatory amino- acid (EAA) obtained from the seeds of of Quisqualis chinensis. Used to identify a specific subset of non- NMDA EAA receptors. Has anthelmintic properties.

SYNONYMS

C5-H7-N3-O5, "excitatory amino-acid (EAA)", "3-(3, 5-dioxo-1, 2, 4-oxadiazolidin-2-yl)-L-alanine", "3-(3, 5-dioxo-1, 2, 4-oxadiazolidin-2-yl)-L-alanine", "S-alpha-amino-3, 5-dioxo-1, 2, 4-oxadiazolidin-2-yl)-L-alanine", "S-alpha-amino-3, 5-dioxo-1, 2, 4-oxadiazolidin-2-yl)-L-alanine", anthelmintic

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. Present definitions of harmful or toxic substances are generally based on doses producing mortality (death) rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern. Considered an unlikely route of entry in commercial/industrial environments. The material may bind to the AMPA subtypes of excitatory amino-acid neuroreceptors. AMPA receptors (also known as quisqualate receptors) are named for the agonists that activates them, namely: (S)-2-amino-3-(3-hydroxy-5-methylisoxazol-4-yl)-propionic acid and, quisqualic acid. They also activated by the major excitatory neurotransmitter in the mammalian central nervous system, glutamate and its analogues and congeners. These receptors excites cells of neurological origin, by allowing cations to enter the cell (and depolarise cell potential). Most AMPA receptors allow only sodium and potassium ions to pass; this distinguishes them from NMDA (another neuroreceptor excited by glutamate), which also allows passage of calcium ions. When concentrations of glutamate and certain of its congeners (excitotoxins) rise above a certain level in the extracellular fluid, the neuron begins to fire abnormally. At higher concentrations the cells of the neuron undergo a specialised process of delayed cell death known as excitotoxicity. The AMPA receptor appears to mediate the bulk of excitatory transmissions at brain synapses. Significant decreases in the function of these receptors may have serious consequences including loss of consciousness, severe sensory and movement impairment, and respiratory failure. In addition, important roles for this family of receptor, in the neuropathology associated with stroke and epilepsy, are

being defined. AMPA antagonists, given in overdose, may provoke serious neurological deficit. Several 3-hydroxy-isoxazole analogues are known to have activity for the AMPA receptor as do a number of alanine-substituted heterocyclic phenols (being bioisosteres for the omega-carboxylate moiety of glutamate).

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).

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.

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. 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 usually by skin contact/absorption and inhalation of generated dust. No human exposure data available. For this reason health effects described are based on experience with chemically related materials. As with any chemical product, contact with unprotected bare skin; inhalation of vapor, mist or dust in work place atmosphere; or ingestion in any form, should be avoided by observing good occupational work practice.