

化 学 品 安 全 技 术 说 明 书

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MSDS标题

HECOGENIN MSDS报告

产品标题

番麻皂素;辛酸己酯

CAS号

467-55-0

化学品及企业标识

PRODUCT NAME

HECOGENIN

NFPA

Flammability	1
Toxicity	2
Body Contact	0
Reactivity	1
Chronic	2

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

PRODUCT USE

Saponins (sapinogen glycosides) and sapogenins are widely distributed in plants. Each saponin consists of an aglucone moiety (the sapogenin), a sugar and a glycoside. The sapinogenin may be a steroid or a triterpene (unsaturated hydrocarbons based on the isoprene unit $H_2CC(CH_3)CH=CH_2$) and with structures similar to that of steroid hormones), and the sugar may be glucose, galactose, a pentose or a methylpentose. Saponins are

bitter- tasting and foam strongly when shaken in water. They form oil- in- water emulsions and act as collective colloids. They are poisonous towards lower life forms. Steroidal saponin extracted from numerous agave species. Used in the preparation of steroidal hormones. Reagent

SYNONYMS

C27-H42-O4, "spirostan-12-one, 3-hydroxy-, (3beta, 5alpha, 25R)-", "spirostan-12-one, 3-hydroxy-, (3beta, 5alpha, 25R)-", "5alpha-spirostan-12-one, 3beta-hydroxy-", "5alpha-spirostan-12-one, 3beta-hydroxy-", 3beta-hydroxy-5alpha-spirostan-3beta-ol-12-one, 3beta-hydroxy-5alpha-spirostan-3beta-ol-12-one, hucogenin, 12-oxotigogenin, 12-oxotigogenin, "tigogenin, 12-oxo-", "tigogenin, 12-oxo-", "sapogenin/ steroidal saponin"

CANADIAN WHMIS SYMBOLS

EMERGENCY OVERVIEW

RISK

Very toxic to aquatic organisms, may cause long- term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual. Saponins (saponines and steroidal sapogenines) are weakly absorbed by the intestine and because of their detergent action, concentrate in the lipid layer of the cells of the gastric and intestinal epithelium. This results in cell damage and severe irritation of the gastrointestinal tract, characterised by burning of the mouth and stomach, cough, salivation and lachrymation, followed by nausea, vomiting, and diarrhoea. Severe fluid and electrolyte loss may also ensue. Reflexes via the autonomic nervous system may produce disturbances to heart function and circulatory system. Death may be the result of a shock reaction. Although saponins are generally poorly absorbed, local irritation of the mucous membranes may enhance their permeability as a result of damage to the intestinal wall. After absorption, systemic damage to red blood cells may produce severe haemolysis, causing anoxia and kidney failure. Humans generally do not suffer severe poisoning from saponins as endogenous cholestrin inactivates them so that only mucous membranes are involved. Because of this, saponins have been used in sneezing powders, emetics and cough syrups to facilitate expectoration. Most saponins are diuretic. In humans this effect disappears within a week following the neutralising action of cholestrin. Some saponins have been identified as potentially harmful to humans because they reduce serum cholesterol by preventing its re-adsorption after it has been excreted by the bile. It is

hypothesised that the saponins either bind with bile or cause bile salts to bind to the polysaccharides in dietary fibre. Either way the bile salts are unavailable to bind cholesterol.

EYE

Although the material is not thought to be an irritant, direct contact with the eye may cause transient discomfort characterized by tearing or conjunctival redness (as with windburn). Slight abrasive damage may also result. The material may produce foreign body irritation in certain individuals.

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. Open cuts, abraded or irritated skin should not be exposed to this material. Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected.

INHALED

Inhalation may produce health damage*. The material is not thought to produce respiratory irritation (as classified using animal models). Nevertheless inhalation of dusts, or fume, especially for prolonged periods, may produce respiratory discomfort and occasionally, distress. Inhalation of dusts, generated by the material during the course of normal handling, may be damaging to the health of the individual. 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. Inhalation of saponin (saponin, sapogenin) dusts or aerosols may produce spasm, oedema of the larynx, chemical pneumonitis and pulmonary oedema. High concentrations may cause mucous membrane damage. Symptoms include burning sensation, coughing, wheezing, shortness of breath, headache and nausea.

CHRONIC HEALTH EFFECTS

There is some evidence that inhaling this product is more likely to cause a sensitization reaction in some persons compared to the general population. There is limited evidence that, skin contact with this product is more likely to cause a sensitization reaction in some persons compared to the general population. Long term exposure to high dust concentrations may cause changes in lung function i.e. pneumoconiosis; caused by particles less than 0.5 micron penetrating and remaining in the lung. Prime symptom is breathlessness; lung shadows show on X-ray. Several instances of

allergenicity resulting from contact with steroidal saponins (sapogenins, including phytosteroids and phyto-oestrogens) have been recorded. Severe irritation has been reported following dermal exposure to sapogenin-containing saps but confounding factors such as the presence of raphides (calcium oxalates) may be significant. Saponins (saponine, sapogenine) are extremely toxic if absorbed in the blood stream; they act by haemolysis (destruction of red blood cells) even at extreme dilution. Many saponins are phytoestrogenic. A common feature of the phytoestrogens is their striking similarity to 17 β -oestradiol and the synthetic oestrogen, diethylstilboestrol. There is evidence that phytoestrogens may mediate oestrogen-like effects by direct interaction with the oestrogen receptor of cells. Although the hormonal activity of phytoestrogens is two to five orders of magnitude below that of oestradiol, their high concentration in certain plants and their slower metabolic disposition, can lead to tissue levels exceeding those of endogenous oestrogens by a factor of a thousand or more. Respiratory sensitization may result in allergic/asthma like responses; from coughing and minor breathing difficulties to bronchitis with wheezing, gasping.

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