西亚试剂® Xiya Reagent 说明书

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化 学 品 安 全 技 术 说 明 书

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MSDS标题

SACCHARIN MSDS报告

产品标题

甜精;邻磺酰苯甲酰亚胺;邻磺酰苯酰亚胺

CAS号

81-07-2

化学品及企业标识

PRODUCT NAME

SACCHARIN

NFPA

Flammability	1
Toxicity	2
Body Contact	2
Reactivity	1
Chronic	2

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

PRODUCT USE

Used as non- caloric sweetening agent and in formulations for electroplating- bath brighteners. In food formulations, saccharin is used in the form of its sodium and calcium salts. Drier

SYNONYMS

C7-H5-N-O3-S, C7-H5-N-O3-S, "insoluble saccharin", benzo-sulphimide, "1, 2-benzisothiazol-3(2H)-one, 1, 1-dioxide", "1, 2-benzisothiazol-3(2H)-one, 1, 1-dioxide", benzo-sulfimide, "anhydro-o-sulphaminebenzoic acid", "anhydro-o-sulphaminebenzoic acid", "o-benzoyl sulphimide", "o-benzoyl sulphimide", "anhydro-o-sulfaminebenzoic acid", "anhydro-o-sulfaminebenzoic acid", "o-benzoyl sulfimide", "o-benzoyl sulfimide", "3-benzisothiazolinone 1, 1-dioxide", "3-benzisothiazolinone 1, 1-dioxide", benzo-2-sulphimide, benzo-2-sulphimide, "1, 2-benzisothiazol-3(2H)-one 1, 1-dioxide", "1, 2-benzisothiazol-3(2H)-one 1, 1-dioxide", benzo-2-sulfimide, benzo-2-sulfimide, "o-benzoic sulphimide", "o-benzoic sulphimide", "o-benzoic sulfimide", "o-benzoic sulfimide", "benzoic sulphimide", "benzoic sulfimide", saccharimide, o-benzosulphimide, o-benzosulphimide, "saccharin acid", o-benzosulfimide, o-benzosulfimide, saccharine, benzosulphimide, saccharinol, "3-hydroxybenzisothiazole-S, S-dioxide", "3-hydroxybenzisothiazole-S, S-dioxide", saccharinose, "1, 2-dihydro-2-ketobenzisosulphonazole", "1, 2-dihydro-2-ketobenzisosulphonazole", "2-sulphobenzoic imide", "2-sulphobenzoic imide", "2, 3-dihydro-3-oxobenzisosulphonazole", "2, 3-dihydro-3-oxobenzisosulphonazole", Glucid, Gluside

CANADIAN WHMIS SYMBOLS

EMERGENCY OVERVIEW

RISK

Harmful to aquatic organisms.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual. Isothiazolinones are moderately to highly toxic by oral administration. The major signs of toxicity were severe gastric irritation, lethargy, and ataxia.

EYE

There is some evidence to suggest that this material can causeeye irritation and damage in some persons. Solutions containing isothiazolinones may produce corrosion of the mucous membranes and cornea. Instillation of 0.1 ml of an aqueous solution containing 560 ppm isothiazolinone into rabbit eye did not produce irritation whereas concentrations, typically around 3% and 5.5 %, were severely irritating or corrosive to the eye.. Symptoms included clouding of the cornea, chemosis and swelling of the eyelids.

SKIN

Skin contact is not thought to have harmful health effects, however the material may still produce health damage following entry through wounds, lesions or abrasions. There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons. Aqueous solutions of isothiazolinones may be irritating r even corrosive depending on concentration. Solutions containing more than 0.5% (5000 ppm active substance) may produce severe irritation of human skin whilst solutions containing more than 100 ppm may irritate the skin. 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

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage. 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

There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. 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. The isothiazolinones are known contact sensitizers. Data are presented which demonstrate that, in comparison with the chlorinated and dichlorinated compounds which share immunological cross-reactivity, the non-chlorinated isothiazolinones have a lower potential for sensitization and no documented immunological cross-reaction with the chlorinated isothiazolinones. The risk of sensitization depends on how contact with the product occurs. The risk is greater when the skin barrier has been damaged and smaller when the skin is healthy. Dermatological studies have demonstrated that mixed isothiazolinone concentrations below 20 ppm may cause sensitisation and that allergic reactions can be provoked in sensitized persons even with concentrations in the range of 7-15 ppm active isothiazolones. The isothiazolinones are a group of heterocyclic sulfur-containing compounds. In general all are electrophilic molecules containing an activated N-S bond that enables them with nucleophilic cell entities, thus exerting biocidal activity. A vinyl activated chlorine atom makes allows to molecule to exert greater antimicrobial efficiency but at the same time produces a greater potential for sensitisation. Several conclusions relating to the sensitising characteristics of the isothiazolinones may therefore be drawn*: · The strongest sensitisers are the chlorinated isothiazolinones. ·

There are known immunological cross-reactions between at least 2 different chlorinated isothiazolinones. · There appears to be no immunological crossreaction between non-chlorinated isothiazolinones and chlorinated isothiazolinones. · Although classified as sensitisers, the nonchlorinated isothiazolinones are considerably less potent sensitizers than are the chlorinated isothiazolinones. · By avoiding the use of chlorinated isothiazolinones, the potential to induce sensitization is greatly reduced. · Despite a significant percentage of the population having been previously sensitised to chlorinated and non-chlorinated species, it is likely that careful and judicious use of non-chlorinated isothiazolinones will result in reduced risk of allergic reactions in those persons. · Although presently available data promise that several non-chlorinated isothiazolinones will offer effective antimicrobial protection in industrial and personal care products, it is only with the passage of time that proof of their safety in use or otherwise will become available. * B.R. Alexander: Contact Dermatitis 2002, 46, pp 191-196 Although there have been conflicting reports in the literature, it has been reported by several investigators that isothiazolinones are mutagenic in Salmonella typhimurium strains (Ames test). Negative results were obtained in studies of the DNA-damaging potential of mixed isothiazolinones (Kathon) in mammalian cells in vitro and of cytogenetic effects and DNA-binding in vivo. The addition of rat liver S-9 (metabolic activation) reduced toxicity but did not eliminate mutagenicity. These compounds bind to the proteins in the S-9. At higher concentrations of Kathon the increase in mutagenicity may be due to an excess of unbound active compounds. A study of cutaneous application of Kathon CG in 30 months, three times per week at a concentration of 400 ppm (0.04%) a.i. had no local or systemic tumourigenic effect in male mice. No dermal or systemic carcinogenic potential was observed. Reproduction and teratogenicity studies with rats, given isothiazolinone doses of 1.4-14 mg/kg/day orally from day 6 to day 15 of gestation, showed no treatment related effects in either the dams or in the foetuses. Saccharin is suspected of causing urinary bladder cancer. When saccharin was administered in the diet or drinking water, increased lymphomas/ leukaemias and transitional cell carcinomas of the urinary bladder were seen in rats. In a multigeneration study using rats dietary saccharin induced transitional cell carcinomas and papillomas of the urinary bladder in the first generation male off-spring. Surgical insertion of pellets containing saccharin resulted in urinary bladder cancer in mice and urinary bladder carcinomas in female mice. Transplacental exposure of rats to sodium saccharin and saccharin did not produce treatment-related neoplasms. Pretreatment with a single instillation in the urinary bladder of a low dose of N-methyl-N- nitrosourea or feeding of N-(4-(5-nitro-2-furyl)-2-thiazoyl)formamide followed by oral administration of sodium saccharin increased the incidence of urinary bladder neoplasms in rats. Simultaneous administration of N-nitroso-N-(4-hydroxybutyl)butylamine and sodium saccharin produced significant increases in urinary bladder papillomas. The results of many case-control studies with humans have proved to be largely inconsistent. One large study showed a significant trend of increasing risk with increasing daily consumption in female non-smokers and male heavy smokers. Subsequent analysis of the data confirmed the original findings overall but cast doubt on the significance of the findings in the two subgroups because of inconsistent dose-response trends.