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

M-PHENYLENEDIAMINE MSDS报告

产品标题

1, 3-二氨基苯;间二氨基苯(MPD);1,3-苯二胺

CAS号

108-45-2

化学品及企业标识

PRODUCT NAME

M-PHENYLENEDIAMINE

NFPA

Flammability	1
Toxicity	3
Body Contact	3
Reactivity	1
Chronic	2

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

PRODUCT USE

Manufacture of dyes, detection of nitrite, textile developing agent, laboratory reagent, vulcanizing agent, ion- exchange resins, block polymers, corrosion inhibitors, photography. Intermediate

SYNONYMS

C6-H8-N2, C6H4(NH)2, "m-phenylene diamine", "m-phenylene diamine", m-aminoaniline, m-aminoaniline, 3-aminoaniline, 3-aminoaniline, m-benzenediamine, m-benzenediamine, "1, 3-benzenediamine", "1, 3-benzenediamine", m-diaminobenzene, m-diaminobenzene, "1, 3-diaminobenzene", "1, 3-diaminobenzene", metaphenylenediamine, meta-phenylenediamine, "1, 3-phenylenediamine", "1, 3-phenylenediamine", "phenylenediamine meta", "Apco 2330", "C.I. 76025", "CI 76025", CI76025, MPD, "Developer 11", "Developer C", "Developer H", "Developer M", "Direct Brown BR", "Direct Brown GG", phenylenediamines, "phenylene diamine"

CANADIAN WHMIS SYMBOLS

EMERGENCY OVERVIEW

RISK

Irritating to eyes.
May cause SENSITIZATION by skin contact.
Possible risk of irreversible effects.
Toxic by inhalation, in contact with skin and if swallowed.
Very toxic to aquatic organisms, may cause long- term adverse effects in the aquatic environment.

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Toxic effects may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 40 gram may be fatal or may produce serious damage to the health of the individual. Strong evidence exists that the substance may cause irreversible but non-lethal mutagenic effects following a single exposure. The substance and/or its metabolites may bind to hemoglobin inhibiting normal uptake of oxygen. This condition, known as "methemoglobinemia", is a form of oxygen starvation (anoxia). Symptoms include cyanosis (a bluish discoloration skin and mucous membranes) and breathing difficulties. Symptoms may not be evident until several hours after exposure. At about 15% concentration of blood methemoglobin there is observable cyanosis of the lips, nose and earlobes. Symptoms may be absent although euphoria, flushed face and headache are commonly experienced. At 25-40%, cyanosis is marked but little disability occurs other than that produced on physical exertion. At 40-60%, symptoms include weakness, dizziness, lightheadedness, increasingly severe headache, ataxia, rapid shallow respiration, drowsiness, nausea, vomiting, confusion, lethargy and stupor. Above 60% symptoms include dyspnea, respiratory depression, tachycardia or bradycardia, and convulsions. Levels exceeding 70% may be fatal.

EYE

This material can cause eye irritation and damage in some persons. Irritation of the eyes may produce a heavy secretion of tears (lachrymation).

SKIN

Skin contact with the material may produce toxic effects; systemic effectsmay result following absorption. The material is not thought to be a skin irritant (as classified using animal models). Abrasive damage however, may result from prolonged exposures. Good hygiene practice requires that exposure be kept to a minimum and that suitable gloves be used in an occupational setting. Molten material is capable of causing burns. 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 of dusts, generated by the material, during the course of normal handling, may produce toxic effects. 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. Processing for an overly long time or processing at overly high temperatures may cause generation and release of highly irritating vapors, which irritate eyes, nose, throat, causing red itching eyes, coughing, sore throat. Usually handled as molten liquid which requires worker thermal protection and increases hazard of vapor exposure.CAUTION: Vapors may be irritating.

CHRONIC HEALTH EFFECTS

Skin contact with the material is more likely to cause a sensitization reaction in some persons compared to the general population. Exposure to the material may result in a possible risk of irreversible effects. The material may produce mutagenic effects in man. This concern is raised, generally, on the basis ofappropriate studies using mammalian somatic cells in vivo. Such findings are often supported by positive results from in vitro mutagenicity studies. There has been some concern that this material can cause cancer or mutations but there is not enough data to make an assessment. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. m-Phenylenediamine is suspected as a cause of bladder cancers in "aniline' workers. Ocular toxicity and a death form subacute liver necrosis have been reported from contact with commercial hair dyes containing m-phenylenediamine. Workers in a factory producing m-phenylenediamine were exposed for 5 to 10 years to the material. of the workers (30 to 50 years

old), 13.% complained of dysuria. A scratch test with m-phenylenediamine produced positive reactions in 8% of the persons who also suffered from eosinophiluria and had urinary m-phenylenediamine levels of 0.3 to 40 ug/100 ml. Cytoscopy showed oedema of the mucous membranes, polypous swellings and infiltration in the urinary bladder. The eosinophilic character of these alterations was confirmed cytologically. Long term administration to experimental animals causes liver and kidney damage (after oral and percutaneous absorption, and percutaneous absorption respectively). m-Phenylenediamine administered orally to experimental animals in the diet or drinking water failed to induce tumours. On the other hand when injected subcutaneously, malignant tumours or sarcomas developed at the injection site. Phenylenediamine derivatives can cause skin damage, which generallydisappears when exposure ceases. Most arylamines are powerful poisons to the blood-making system. High chronic doses cause congestion of the spleen and tumor formation.