

Health effects with regards to exposure biology essay

[Science](#), [Biology](#)



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\n[/toc]\n \nParticulate matter (PM) is a complex mixture of airborne particles that differ in size, origin and chemical composition, all of which are <10 µm in size. Fine particles are disperse in air and can move freely over great distances.. Health effects arise from fine bagasse particles when they get accumulate in the respiratory system. Particles can aggravate respiratory conditions such as asthma. Exposure to fine particles is associated with serious health effects, this include premature death cardiovascular disorder, lung cancer. Health effects have been associated with exposures to particulate matter over both short and longer periods.

Nitrogen dioxide

It is a reddish brown, irritating odor gas that irritates the eye mucous membranes, nose, and throat and it result to shortness of breath from exposure to high concentrations. High concentrations or continued exposure to low levels of nitrogen dioxide increases risk of respiratory infection. Exposures to high dose nitrogen dioxide levels may lead to the development of lung disease such as emphysema or death. Workers that are at risk from

exposure to nitrogen dioxide result with asthma other respiratory diseases in long term.

Sulfur dioxide

It is the chemical compound with the formula SO_2 . Industrial processes release this toxic gas with a pungent, irritating smell. Sulfur dioxide not only has a bad odor, it can irritate the respiratory system. Exposure to high concentrations for short periods of time can constrict the bronchi and increase mucous flow, making breathing difficult. SO_2 can also aggravate existing heart and lung diseases.

Biocides

Biocides are used to control or kill the unwanted presence of things such as insects, bacteria, fungi, animals and viruses by either biological or chemical means. If you work with biocides, there are strict control measures in place when it comes to health and safety legislation which you must adhere to which is laid out by the Health and Safety. Health effects Many biocides products contain chemicals, formaldehyde being just one example and there are other ingredients which can cause skin disorders, respiratory problems and various types of cancer.

Herbicide

Herbicides, also commonly known as weed killers, are pesticides used to kill unwanted plants. It is an organic or inorganic compound. Selective herbicides kill specific targets, while leaving the desired crop relatively unharmed. Different kinds of herbicide are use in sugar field, some are: 1.

Gesaprim (Atrazine)². Velpar³. 2,4-D. Gesaprim. Gesaprim is one of the trade names for Atrazine, a chemical herbicide. Pure Atrazine is an odorless, white powder that dissolves in water. Atrazine is not a volatile, reactive or flammable chemical. Atrazine is used to kill weeds, primarily on farms.

Health Effects: congestion of the heart, lungs and kidneys; slow blood pressure; muscle spasms; weight loss; damage to adrenal glands; cardiovascular damage; retinal degeneration; muscle degeneration; cancer.

Velpar: Herbicide is a water-dispersible liquid that is mixed in water and applied as a spray for weed control in certain crops. Health effects: 1. Skin, transient irritation with discomfort or rash. 2. Eyes, clouding of the eye. 3. Head ache. 4. Irritation. 5. Pigmentation of skin if over-exposed.

2, 4-D: This highly selective herbicide is toxic to broad leafed plants but less harmful to grasses. One of the hormone weed killers, 2, 4-D (2, 4-dichlorophenoxy acetic acid) an aryloxyalkanoic acid known as the 'phenoxy herbicide'. The chemicals have complex mechanisms of action against weeds, resembling those of auxins (growth hormones). Once the 2, 4-D absorbed, it is translocated within the plant and accumulates at the growing points of roots and shoots where it inhibits growth. Health Effects: Acute: Exposure to 2, 4-D produce eye and skin irritation. Other symptoms include nausea, weakness and fatigue, and affect the central nervous system; effects including inflammation of nerve endings. Acute exposure to 2, 4-D include, the following: diarrhea, temporary loss of vision, respiratory tract irritation, confusion, numbness and tingling, bleeding and chemical hypersensitivity. Chronic: 1. Cancer. 2. Reproductive effects.

Flocculants

Flocculants consist of various molecular weight anionic, nonionic and cationic polymers. They are used to increase the efficiency of settling, clarification, filtration and centrifugation operations. Flocculation is the process where individual particles of a suspension form aggregates. In the water treatment industry, the terms coagulation and flocculation imply different mechanisms. Health effects: Contacts with skin cause the irritation which may result to redness of skin. Some other source reveal that eyes is more prone to such substance as contact with it may result to an irritation of the surficial layer. It is also a form of sensitization where the mist may cause the irritation of the respiratory airway.

Lime

Hydrated lime is an essential component for the production of sugar from sugar canes. It is also used to purify sugar from other sources, such as maple or sorghum, although these are produced in much smaller quantities. Hydrated lime is added to the juice to raise the pH and to react with the impurities to form insoluble calcium organic compounds that can be removed. Hydrate is an odorless white or grayish-white powder. Health effects: Eyes: Contact can cause severe irritation or burning of eyes, including permanent damage. Skin: Contact can cause irritation of skin. Ingestion: This product can cause severe irritation of gastrointestinal tract if swallowed. Inhalation: This product can cause severe irritation of the respiratory system. Long-term exposure may cause permanent damage. Hydrate is not listed by MSHA, OSHA, or IARC as a carcinogen. However, this product may contain

trace amounts of crystalline silica in the form of quartz or cristallite, which has been classified by IARC as a Group I carcinogen to humans when inhaled. Inhalation of silica can also cause a chronic lung disorder, silicosis.