Hazard Types

1. Chemicals

A chemical hazard is a type of occupational hazard caused by exposure to chemicals in the workplace. Victims can suffer acute or long-term negative health effects.

It is impossible to prevent some exposure to chemical substances in our society, so they pose probably the greatest risk to occupational health.

There are hundreds of hazardous chemicals, including, dermatologic agents, carcinogens, neurotoxins, and reproductive toxins. Asthmagens, sensitizers, and systemic toxins are also hazardous chemicals.

According to *Wikipedia:* “Long-term exposure to chemicals such as silica dust, engine exhausts, tobacco smoke, and lead (among others) have been shown to increase risk of heart disease, stroke, and high blood pressure.”

Chemicals at the workplace can range from cleaning products to chemical production. When chemicals are not used, stored or handled properly, they can cause injury, illness, fire or even explosions at the extreme conditions.

Types of chemical hazards

Liquids such as acids, **solvents** especially
Vapors and **fumes**
Flammable materials

Those in highly **volatile forms such as gases, vapours and dusts** generally pose the greatest risk, but solid or liquid materials may be highly **flammable**, corrosive or even explosive and should be used with care.

Ways that chemicals can harm workers can include contact with the skin, inhalation or ingestion; the impact can take place immediately or overtime over prolonged exposure.

One way to prevent chemical hazards from negatively impacting your workplace, ensure all workers and supervisors are property trained, including on

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If they do not have label, even hazardous chemicals pose a greater risk.

Therefore, It **is important** to recognise symbols and read **labels** so that you can take steps to protect your health.

Labels are important because they **are** the first alert there may **be** hazards

1. Chemicals (cont.)

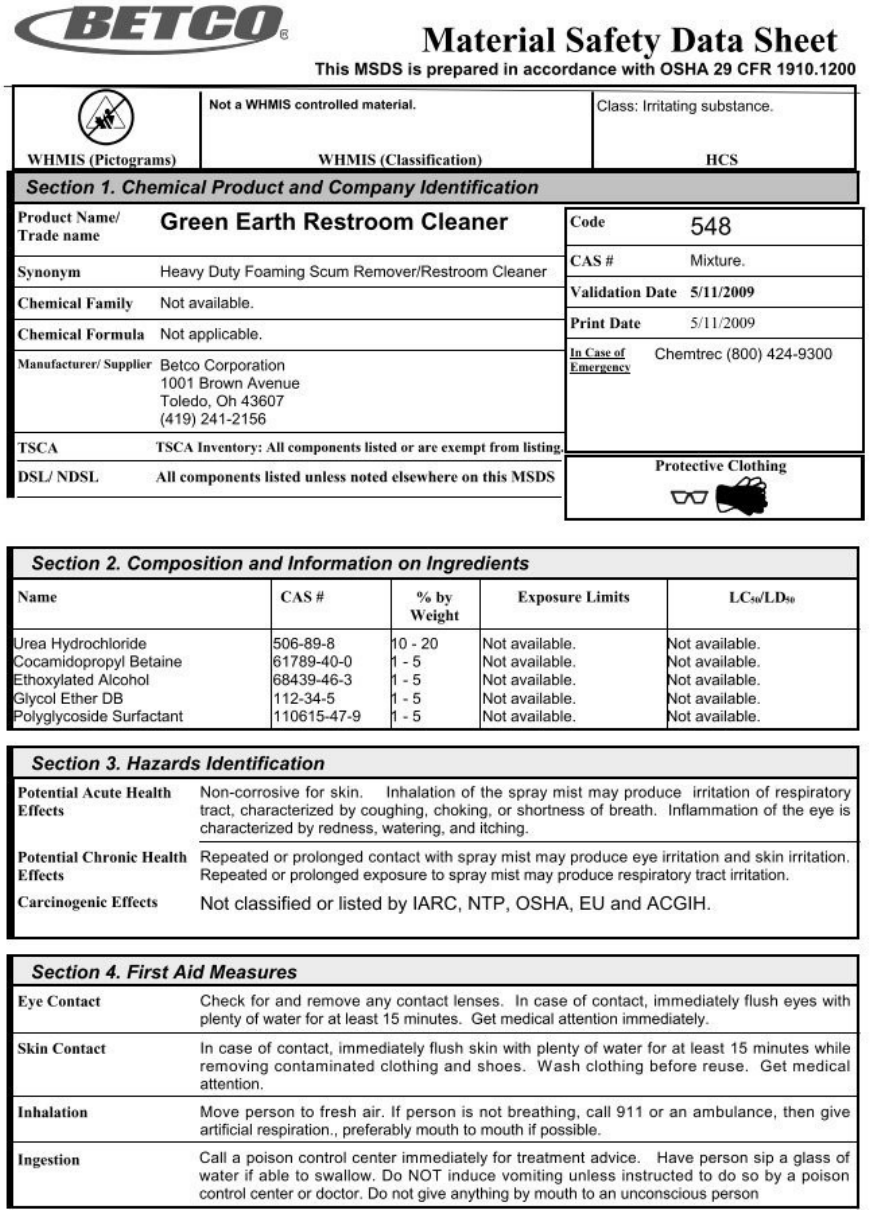
When you read an MSDS, you should keep in mind that there are three main types of hazards which can be related to the use of a chemical product:

• - Health Hazards. For example, skin contact with strong acids will cause burns.

• - Fire Hazards. For example, propane burns very easily and may explode.

• - Reactivity Hazards. For example, mixing ammonia and household bleach will result in the release of a harmful gas.

• In addition, international format MSDSs include information on environmental hazards (hazards to the natural environment).



BETCO

Material Safety Data Sheet

This MSDS is prepared in accordance with OSHA 29 CFR 1910.1200

WHMIS (Pictograms)	Not a WHMIS controlled material. WHMIS (Classification)	Class: Irritating substance. HCS

Section 1. Chemical Product and Company Identification

Product Name/ Trade name	Green Earth Restroom Cleaner	Code	548
Synonym	Heavy Duty Foaming Scum Remover/Restroom Cleaner	CAS #	Mixture.
Chemical Family	Not available.	Validation Date	5/11/2009
Chemical Formula	Not applicable.	Print Date	5/11/2009
Manufacturer/ Supplier	Betco Corporation 1001 Brown Avenue Toledo, Oh 43607 (419) 241-2156	In Case of Emergency	Chemtrec (800) 424-9300
TSCA	TSCA Inventory: All components listed or are exempt from listing.		
DSL/ NDSL	All components listed unless noted elsewhere on this MSDS		

Protective Clothing

Section 2. Composition and Information on Ingredients

Name	CAS #	% by Weight	Exposure Limits	LC_{50}/LD_{50}
Urea Hydrochloride	506-89-8	10 - 20	Not available.	Not available.
Cocamidopropyl Betaine	61789-40-0	1 - 5	Not available.	Not available.
Ethoxylated Alcohol	68439-46-3	1 - 5	Not available.	Not available.
Glycol Ether DB	112-34-5	1 - 5	Not available.	Not available.
Polyglycoside Surfactant	110615-47-9	1 - 5	Not available.	Not available.

Section 3. Hazards Identification

Potential Acute Health Effects	Non-corrosive for skin. Inhalation of the spray mist may produce irritation of respiratory tract, characterized by coughing, choking, or shortness of breath. Inflammation of the eye is characterized by redness, watering, and itching.
Potential Chronic Health Effects	Repeated or prolonged contact with spray mist may produce eye irritation and skin irritation. Repeated or prolonged exposure to spray mist may produce respiratory tract irritation.
Carcinogenic Effects	Not classified or listed by IARC, NTP, OSHA, EU and ACGIH.

Section 4. First Aid Measures

Eye Contact	Check for and remove any contact lenses. In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. Get medical attention immediately.
Skin Contact	In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Wash clothing before reuse. Get medical attention.
Inhalation	Move person to fresh air. If person is not breathing, call 911 or an ambulance, then give artificial respiration., preferably mouth to mouth if possible.
Ingestion	Call a poison control center immediately for treatment advice. Have person sip a glass of water if able to swallow. Do NOT induce vomiting unless instructed to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person

1. Chemicals (cont.)

material safety data sheets (MSDS) is a document that contains information on the potential health effects of exposure to chemicals, or other potentially dangerous substances, and on safe working procedures when handling chemical products..

Oxidizer

- An **oxidizer** is a type of chemical which a fuel requires to burn.
- Most types of burning on Earth use oxygen, which is prevalent in the atmosphere. However in space there is no atmosphere to provide oxygen or other **oxidizers**
- so rockets need to carry up their own **oxidizers**.

Oxidizing materials are liquids or solids that readily give off (release) oxygen or other oxidizing substances (such as bromine, chlorine, or fluorine) and cause thing to burn violentl; they speed up the development of a fire. They cause substances that do not normally burn readily in air to burn rapidly

e.g. Bromine, nitrates, concentrated nitric acid, conc. Hydrogen peroxides