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| **CHEMICAL &****PROPERTIES** | **HEALTH****HAZARD** | **FIRE &****REACTIVITY****HAZARD** | **SPILLS & LEAK****HAZARD** | FIRST AID |
| 1. AMMONIA (NH3)**Colourless gas Pungent****Odour****Melting point- 770C****Boiling Point – 330C****Auto ignition -**  **Temp.- 6510C****Vapour density 0.597****Explosive limit -**  **% by Vol****Lower - 16****Upper - 25****TLV : 25 ppm** | **Avoid inhalation****& body contact****can be fatal****Irritation of Eyes,****Nose & throat.****Coughing and** **Vomiting, Cold****Burn due to liquid****Use respiratory****Protection.** | **Can catch fire.****Hazard is** **moderate when****exposed to heat****Or flame.****Lightly reactive.****Wear full** **Protection.** | **Great danger of Fire,****Explosion or gas cloud.****Wear full protection** **along with BA set or****online respirator in the****Spill area. Stay upwind.****Keep people away.****Avoid body body** **Contact.****Minimise rising cloud****By water spray.** | **INHALATION** **Remove victim to fresh****Air, Inhale vapour of** **Worm water and give****Artificial respiration.****EYE CONTACT****Wash with plenty of** **water or solution of 0.5****to 1% Alum.****SKIN CONTACT****Wash with plenty of** **water & apply a lotion****consisting of 5% solution****of acetic citric, tartaric or****Salicylic acid.** |
| 2. CHLORINE (Cl2)**Greenish yellow gas.****Molecular weight 70.9****Melting point - 1010C****Boiling point - 34.50C****Density – 1.47****Vapour Density 2.49****TLV : 1 ppm** | **Dangerous gas.****Can be fatal.****Extremely irritant****to eyes, nose &** **throat.Vapour can** **be cause headache,****coughing, pain in** **the body.****Breathing may** **reach to point** **where death is** **possible by suffo-****cation. Wear full****protection along****with BA set or** **Online respirator.** | **Fire hazard is** **moderate. Can****reach to cause** **fire or explosion****if comes in** **contact with** **Turpentine,****Ammonia and****Hydrocarbons.** | **Shut of the outlet of** **Leakage if possible.****Ensure the running of****the absorption system.****Wear full protection****along with BA set or****online respirator in the****spill area. Stay upwind.****Keep people away.****Avoid body contact.****Minimize rising cloud****By water spray.**  | **INHALATION****Removing victim to fresh****Air and give artificial respiration.****EYE&SKIN CONTACT****Wash with plenty of****Water.****Remove****Contaminated clothing.** |
| **3. SULPHURIC ACID** **(H2SO4)****Colourless liquid,****Solubility in water.****Boiling point – 2900C****Melting point – 10.50C****Specific gravity – 1.84****Odour less, miscible** **with alcohol**  | **Inhalation may** **Injure lungs,****Ingression or** **contact with skin****caused severe burns** | **Emits tonic** **Fumes of SOx;****Hazardous** **Combustion** **Reactive &** **Corrosive in** **Nature.** | **Shut of the outlet of** **Leakage if possible.****Ensure the running of****the absorption system.****Wear full protection****Of PVC suit & shoes.** **Dozing of lime in** **Spillage area.****Keep people away.****Avoid body contact.****Diluted by water spray.**  | **INHALATION****Removing victim to fresh****Air and give artificial respiration.****EYE&SKIN CONTACT****Wash with plenty of****Water.****Remove****contaminated clothing** |
| **4. PHOSPHURIC ACID** **( H3PO4 )****Thick liquid, soluble in** **Water. Odour- pleasant****Boiling point - >1300C****Specific gravity – 1.89** | **Inhalation may** **Injure lungs,****Ingression or** **contact with skin****caused severe burns** | **Emits tonic** **Fumes of POx;****Violent reaction** **With Sodium Te-****tra Hydroborate.****Reacts with Chlo-****-ride+Stainless****steel to form** **Hydrogen gas.** | **Avoid contact with****Liquid or vapours.****Provide face shield,****Rubber hand gloves,****PVC Suit &shoes.** | **INHALATION****Removing victim to fresh****Air and give artificial respiration.****EYE&SKIN CONTACT****Wash with plenty of****Water.Remove****contaminated clothing** |

**5.0Chemical Name:SULPHUR**

**CAS:7704-34-9**

**RTECS #:WS4250000**

**= Wt:100.**

**Other REC Limits:10 MG/M3**

**===================== Hazards Identification**

**Health Hazards Acute and Chronic:**

**EYES: SULPHUR DUST IS MILDLY IRRITATING TO EYES.**

**SKIN: UPON CONTINUED OR REPEATED CONTACT MAYCAUSE IRRITATION OF THE SKIN.**

**INHALATION: INHALATION OF DUST CAN CAUSE RESPIRATORY TRACT IRRITATION.**

**INGES TION: SULPHUR HAS A LOW ORDER OF TOXICITY.**

**Effects of Overexposure:EYES: MILD IRRITATION.**

**SKIN: IRRITATION.**

 **INHALATION: RESPIRATORY TRACT IRRITATION.**

 **INGESTION: SULPHUR HAS A**

 **LOW ORDER OF TOXICITY.**

**======================= First Aid Measures**

**First Aid:EYES: RINSE WITH WATER FOR 10-15 MINUTES. CONSULT A PHYSICIAN SHOULD IRRITATION PERSIST.**

**SKIN: WASH WITH SOAP AND WATER. CONSULT . A PHYSICIAN SHOULD SYMPTOMS OR IRRITATION OCCUR.**

**INHALTION: MOVE PERSON TO FRESH AIR. IF SYMPTOMS OR IRRITATION OCCUR, SEE PHYSICIAN. INGESTION: IF LARGE AMOUNTS ARE SWALLOWED, IMMEDIATELY GET MEDICAL HELP.**

**===================== Fire Fighting Measures**

**Flash Point:=207.C, 404.6F**

**Autoignition Temp:=232.C, 449.6F**

**Lower Limits:35 G/M3**

**Upper Limits:1400 G/M3**

**Extinguishing Media:WATER FOG, STEAM, CARBON DIOXIDE. EXTINGUISH SMALL FIRES BY GENTLY COVERING WITH SAND OR FINE EARTH TO EXCLUDE OXYGEN.**

**Fire Fighting Procedures:WEAR SELF-CONTAINED BREATHING APPARATUS. WATER STREAM MAY SPLATTER MOLTEN SULFUR.**

**Unusual Fire/Explosion Hazard:DUST OR VAPORS CAN FORM EXPLOVE MIXTURE WITH AIR.**

**================== Accidental Release Measures**

**Spill Release Procedures:USE NORMAL CLEAN-UP PROCEDURES FOR SPILLS.( MECHANICAL SWEEPING OR VACUUM DEVICES NOT RECOMMENDED.)**

 **ELIMINATE SOURCES OF POSSIBLE IGNITION. AVOID UNNECESSARY DUSTING.**

**============= Exposure Controls/Personal Protection =============**

**Respiratory Protection:WHERE EXPOSURE TO THE DUST IS APPARENT, A**

 **HALF-FACE DUST/MIST RESPIRATOR MAY BE WORN.**

**Ventilation:DILUTION VENTILATION IS A SATISFACTORY CONTROL. IF**

 **CONDITIONS CREATE DISCOMFORT TO WORKER, LOCAL EXHAUST SYSTEM SHOULD BE CONSIDERED.**

**Protective Gloves:PROTECTIVE GLOVES**

**Eye Protection:WEAR SAFETY GLASSES**

**Other Protective Equipment:CLEAN BODY COVERING CLOTH**

**Supplemental Safety and Health**

**SYNONYMS: SULFUR, FLOWERS OF SULPHUR.**