

CLASS I

DIV I • DIV II GROUPS A, B, C, D **CLASS II**

DIV I **GROUPS E, F, G**

DIV II **GROUPS F. G** **CLASS III**

DIV I - DIV II **NO GROUPS**

AIR AT NORMAL ATMOSPHERIC CONDITIONS



HIGH 02 **HUMAN PRESENCE**



OXIDIZER



IGNITION SOURCE

AMOUNT OF ENERGY REQUIRED TO CAUSE IGNITION

- 1. CONCENTRATION **OF HAZARDOUS SUBSTANCE**
- 2. THE EXPLOSIVE **CHARACTERISTICS**
- 3. VOLUME OF THE LOCATION







FRICTION & MPACT SPARKS

LOW 02 CHEMICAL PRESENCE







CLASSI

FLAMMABLE VAPORS. GASES & LIOUIDS



CLASS II

COMBUSTIBLE DUST



CLASS III

EASILY IGNITABLE FIBERS & FLYINGS



DIVISION: IGNITABLE CONCENTRATIONS OF HAZARDS

DIVI

EXISTS UNDER NORMAL OPERATING CONDITIONS AND/OR HAZARD CAUSED BY FREQUENT MAINTENANCE, REPAIR AND EQUIPMENT FAILURE



DIV II

HANDLED, PROCESSED OR USED IN CLOSED CONTAINERS/SYSTEMS AND ESCAPE THROUGH ACCIDENTAL RUPTURE OR BREAKDOWN



GROUP: EXPLOSIVE CHARACTERISTICS OF THE SPECIFIC MATERIALS INVOLVED

GROUP A GROUP B Acetylene Hydrogen Butadiene **Ethylene Oxide**

GROUP C Ethylene Cyclopropane Acetone Ethyl Ether **Propylene Oxide**

GROUP D **Propane Ethanol** Gasoline **Ammonia Methanol** Benzene Natural Gas

Butane

GROUP E Aluminum Magnesium Commercial Alloys

DUST

GROUP F GROUP G Coal Flour Carbon Black Grain Wood Charcoal **Coke Dusts** Plastic Chemicals **TEMPERATURE: MAX OPERATING** TEMP. ON EQUIPMENT SURFACE

T1 T2 T2A T2B T2C T2D T3 T3A T3B T3C T4 T4A T5 T6 °C | 450 | 300 | 280 | 260 | 230 | 215 | 200 | 180 | 165 | 160 | 135 | 120 | 100 | 85 °F 842 572 536 500 446 419 392 356 329 320 275 248 212 185

GAS