DATE: April 2018 Version 1

1. **PRODUCT AND COMPANY IDENTIFICATION Product Name** SULPHUR HEXAFLUORIDE

# Chemical Formula SF6

**Trade Name** Sulphur Hexafluoride

**Colour coding** Protea Pink (A.58) body with “Sulphur

Hexafluoride” stencilled on the body.

Valve 3 S – Brass, 5/8 inch BSP right hand Male (BS341 No6)

**Company Identification** Vietxuangas

Ngoc Dong - Da Ton- Gia Lam-HN

Tel. No: 0913.532.568

# EMERGENCY NUMBER 0913.532.568

# COMPOSITION/INFORMATION ON INGREDIENTS

Chemical Name: Sulphur hexafluoride

Chemical Abstract Service Number (CAS No.): 2551-62-4 UN No.: 1080

ERG No.: 126

Hazchem Warning: Non-flammable compressed gas

# HAZARDS IDENTIFICATION

**Main Hazards** All cylinders are transportable gas containers. Sulphur hexafluoride can act as a simple asphyxiant by displacing the amount of oxygen in air necessary to support life.

**Adverse health effects** The coordinating capacity of the

nervous system is impaired by even slight degrees of oxygen deficiency; the subject cannot think clearly, or control his limbs accurately. The development of symptoms depends on the degree and duration of the oxygen deficiency, and also on the rapidity with which the deficiency is developed. In sudden and acute asphyxia, unconsciousness is immediate. When asphyxia develops slowly enough the following symptoms appear; increased volume of breathing, accelerated pulse rate, muscular inco-ordination, faulty judgement, emotional instability, fatigue, fainting, nausea, vomiting, disorientation, respiration in gasps.

**Chemical Hazards** Inhalation of gaseous decomposition

products of sulphur hexafluoride resulting from electrical decomposition should be avoided

**Biological Hazards** See above

**Vapour Inhalation** Sulphur hexafluoride has a low order of

inhalation toxicity. Sulphur hexafluoride can, however, act as a simple asphyxiant by displacing the necessary amount of oxygen to support life.

**Eye Contact** No known effect

**Skin Contact** No known effect

**Ingestion** No known effect

# FIRST AID MEASURES

If the subject is conscious and becomes aware of symptoms of asphyxia, he/she should go to an uncontaminated area and inhale

fresh air or oxygen. An unconscious subject must be carried to an uncontaminated area and given artificial respiration with simultaneous administration of oxygen as promptly as possible. Few, even those who have been severely asphyxiated, and who have not died during the asphyxiation, fail to make complete recoveries after receiving oxygen inhalation. Treat symptomatically thereafter.

# FIRE FIGHTING MEASURES

**Extinguishing media** As sulphur hexafluoride is non-

flammable, it will not add to the fire, but could act as an extinguishant. Suitable extinguishing media should be used for surrounding fire.

**Specific Hazards** Overheating of the cylinder could

cause rupturing due to the build up of pressure.

**Emergency Actions** Using water, keep all cylinders in the

vicinity of the fire cool. Remove cylinders from the vicinity of the fire if possible. CONTACT AFROX EMERGENCY NUMBER.

**Protective Clothing** Should there have been a major leak

of SF6; self-contained breathing apparatus should be worn as the oxygen concentration in the air could have been diluted to a level which will not support life.

**Environmental Precautions** When discharge into the atmosphere,

sulphur hexafluoride may contribute to greenhouse effect. It has a largest global warming potential of any chemical yet assessed, 23,900. (CO2 = 1). As the gas is approximately five times heavier than air, it will not disperse rapidly.. Evacuate any confined spaces using forced draught ventilation ensuring that there is sufficient replacement air for that which has been removed by exhaust system.

# 5 ACCIDENTAL RELEASE MEASURES

**Personal Precautions** As sulphur hexafluoride is a simple

asphyxiant, care should be taken when entering confined spaces where leaks have occurred

**Environmental Precautions** When discharge into the atmosphere,

sulphur hexafluoride may contribute to greenhouse effect. It has a largest global warming potential of any chemical yet assessed, 23,900. (CO2 = 1).

**Small Spills** Allow to disperse. Use forced-draught if required.

**Large Spills** Beware of possibility of depleting the oxygen concentration of the air to a level below which it becomes life- threatening. Use forced-draught

ventilation to clear confined spaces.

# HANDLING AND STORAGE

Do not allow cylinders to slide or come into contact with sharp edges. Sulphur hexafluoride cylinders may be stacked horizontal provided that they are firmly secured at each end to prevent rolling. Use a “First in – First out” inventory system to prevent full cylinders from being stored for excessive periods of time. Keep out of reach of children.

# EXPOSURE CONTROLS/PERSONAL PROTECTION 12 ECOLOGICAL INFORMATION

**Occupational** Sulphur hexafluoride is completely

**exposure hazards** non-toxic. TLV (8hour) = 1000 ppm

**Engineering** Engineering control measures are

**control measures** preferred to reduce exposures.

General methods include mechanical ventilation, process or personal enclosure, and control of process conditions. Administrative controls and personal protective equipment may also be required. Use a suitable ventilation system separate from other exhaust ventilation systems.

Exhaust direct to outside. Supply sufficient replacement air

to make up for air removed by exhaust system.

# PHYSICAL AND CHEMICAL PROPERTIES

Sulphur hexafluoride does not pose hazard to the ecology.

# DISPOSAL CONSIDERATIONS

**Disposal methods** Small amounts may be blown to the

atmosphere under controlled conditions. Large amounts should only be handled by the gas supplier.

**Disposal of Packaging** The disposal of containers must only

be handled by the gas supplier

# TRANSPORT INFORMATION ROAD TRANSPORTATION

UN No. 1080

Class 2.2

Subsidiary risk Asphyxiant

ERG No. 126

Hazchem warning Non-flammable gas

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| --- | --- | --- | --- |
| **PHYSICAL DATA** |  | **SEA TRANSPORTATION** |  |
| Chemical Symbol | SF6 | IMDG | 1080 |
| Molecular Weight | 146,054g/mol | Class | 2.2 |
| Melting point @ 224 kPa | -50.8oC | Label | Non-flammable gas |
| Relative density, Gas @ 101.325kPa @ 20oC | 5.114 | **AIR TRANSPORTATION** |  |
| Specific Volume @ 21.1oC, 101.325 kPa | 156.1 dm3/kg | ICAO/IATA Code | 1080 |
| Dielectric constant; Gas @ 25oC, @ 101.325kPa | 1.002 049 | Class | 2.2 |

# 10 STABILITY AND REACTIVITY

**Conditions to avoid** Sulphur hexafluoride may be partially

decomposed if subjected to an electrical discharge. Some of the breakdown products are corrosive, this corrosion being enhanced by the presence of moisture or at high temperature.

**Incompatible** Since sulphur hexafluoride is non-corrosive **Materials** any of the common structural metals may be used under ordinary conditions. At

temperatures of the order of 150oC copper, stainless steel, and aluminium are resistant to attack by decomposition products.

**Hazardous** Lower fluorides of sulphur hexafluoride, **Decomposition** some of which are toxic, may be produced **Products** if sulphur hexafluoride is subjected to

electrical discharge, and inhalation of the gas after electrical discharge must be

guarded against.

# 11TOXICOLOGICAL INFORMATION

Acute Toxicity No known effect Skin & eye contact No known effect Chronic Toxicity No known effect Carcinogenicity No known effect

Mutagenicity No known effect Reproductive Hazards No known effect

Subsidiary risk Asphyxiant

Packaging instructions

* Cargo 200
* Passenger 200

Maximum quantity allowed

* Cargo 150 kg
* Passenger 75 kg

Maximum quantity allowed

# REGULATORY INFORMATION

National legislation Not known

# OTHER INFORMATION

Ensure all national/local regulations are observed. Ensure operators understand the asphyxiation hazard.

Bibliography

Compressed Gas Association, Arlington, Virginia Handbook of Compressed Gases – 3rd Edition Matheson Gas Data Book – 6th Edition

# EXCLUSION OF LIABILITY

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