MATERIAL SAFETY DATA SHEET

1. Identification of the product and of the company

Identification of the product Catalogue No.: 230S

Product name:

KITAGAWA GAS DETECTOR TUBE1,2-DICHLOROETHANE 230SManufacture/supplier identification

Company:

KOMYO RIKAGAKU KOGYO K.K. 1-8-28 SHIMONOGE. TAKATSU-KU. KAWASAKI-CITY. KANAGAWA 213-0006. JAPAN TEL+81(0)44-833-8911 FAX+81(0)44-833-2672

2. Chemical identification of ingredients

Pretreat tube1:

Inert porous carrier material impregnated with Chromic anhydride, Fuming-Sulphuric acid and Iodine pentoxide sealed in a glass tube.

| CAS NUMBER | INGREDIENTS | mg/Tube | % | SYMBOLS |
|------------|-----------------------|---------|------|-----------------------|
| 1333-82-0 | Chromic anhydride | 24.1 | 4.8 | CrO ₃ |
| 8014-95-7 | Fuming-Sulphuric acid | 216.7 | 43.3 | $H_2SO_4 \cdot xSO_3$ |
| 12029-98-0 | Iodine pentoxide | 3.25 | 0.7 | I_2O_5 |
| | | | | |

Pretreat tube2:

Inert porous carrier material impregnated with Phosphoric acid sealed in a glass tube.

| CAS NUMBER | INGREDIENTS | mg/Tube | % | SYMBOLS |
|------------|-----------------|---------|------|-----------|
| 7664-38-2 | Phosphoric acid | 112.7 | 11.3 | H_3PO_4 |

Detector tube:

Inert porous carrier material impregnated with 3, 3'-Dimethyl naphthidine sealed in a glass tube.

| CAS NUMBER | INGREDIENTS | mg/Tube | % | SYMBOLS |
|------------|---------------------------|---------|-------|-------------------|
| 13138-48-2 | 3,3'-Dimethyl naphthidine | < 0.1 | < 0.1 | $C_{22}H_{20}N_2$ |

Hazardous information of ingredients

Exposure Limit

Short-term:

N/A- As impregnated on silica gel.

Long-term:

N/A- As impregnated on silica gel.

In our experience, there is no release of these chemicals from the glass tube in normal use.

3. Hazards identification

Hazards identification:

Glass hazard

4. First aid measures (in the case of contact with the contents of a broken tube.)

| Skin contact: | |
|---------------|--|
| | Wash affected area with copious amount of water. |
| Eye contact: | |
| | Wash eyes immediately with copious amount of water or normal saline solution |
| | Ensure lift eyelids and rinse for at least 15 min. Seek medical attention. |
| Ingestion: | |
| | Seek medical attention immediately. |

| 5. Fire fighting measures Flash point: | |
|--|---|
| 1 mon Ponne | Non-combustible |
| Extinguishing media: | |
| Special fire fighting Proc | All known extinguishants can be used. edures: None |
| Unusual fire & Explosi | on hazards: |
| | Negligible fire hazard when exposed to heat or flame. |
| 6. Accidental release mea | asures |
| Personal protection: | Do not pick up broken glass with bare hands if the tube is broken. Cover with inert absorbent such as vermiculite. Sweep up and contain for waste disposal. |
| 7. Handling and storage Handling & use: | |
| C. | Ensure the instructions for use are followed. Safety glasses and gloves should be worn to prevent injury from splintering glass. |
| Storage: | Keep away from direct sunlight and store at 0-10 degree C. |
| 8. Exposure control/perso Respiratory protection: | onal protection |
| Ventilation: | Not applicable |
| Other protective equipme | Not applicable |
| Other protective equipme | Safety glasses and gloves |
| <u>9. Physical/Chemical pro</u> Appearance: | perties |
| | treat tube1: |
| ۲. | Olive solid layer sealed in a glass tube. |
| Pre | treat tube2 White solid layer sealed in a glass tube. |
| Det | tector tube: |
| | White solid layer sealed in a glass tube. |
| Boiling point: | |
| Melting point: | Not applicable |
| Specific gravity (H ₂ O=1) | 11 |
| Evaporation rate (BuOAc | Not applicable |
| ~ | Not applicable |
| Solubility in water: | Not applicable |
| Vapour pressure: Vapour density: | Not applicable |
| · | Not applicable |

10. Stability and Reactivity

Stability:

Stable at under ambient temperatures and pressures.

Incompatibilities: Not applicable Hazardous decomposition products: None Hazardous polymerization: None

11. Toxicological information

General:

In our experience this products is not harmful to health when correctly used/handled.

| Skin contact: | |
|---------------|--|
| | Contents may be irritating to the skin if the tube broken. |
| Eye contact: | |
| | Contents may be irritating to the eyes if the tube broken. |
| Ingestion: | |
| | Glass hazard |

12. Ecological information

General:

Do not allow to enter drinking water supplies.

13. Disposal considerations

General:

Ensure the tubes are open at both end. Submerge in Water. Neutralize water if necessary and dispose of as aqueous waste. The glass tubes can then be disposed of as inert "sharps".

14. Transport information

General:

This product does not pose significant risk to health, safety or property.

15. Regulatory information

General:

Not classified hazardous under CHIP2 Regulations as this product consists of a sealed glass tube containing a small amount of chemicals impregnated onto Silica sand.

16. Other information

Details given in this document are believed to be correct at the time of going to press. While proper care has been taken in the preparation of this document, but we cannot guarantee its accuracy or completeness, therefore we disclaim any liability for injury or damage when the product is used for other purposes than it is intended.