

CENTRAL GLASS Co., Ltd.

Issued: May 30, 2016
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Safety Data Sheet

1. Identification

Product name : 1233Z
Product code : CCK-1108
Recommended use : Solvent, Cleaning liquid
Manufacturer
Company Name : Central Glass Co., Ltd.
Address : Kowa Hitotsubashi Bldg., 3-7-1 Kanda Nishikicho, Chiyoda-ku,
Tokyo 101-0054, Japan
Section concerned : Applied Chemicals Sales Department
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2. Hazard identification

Classification of the substance or mixture:

Flammable Liquid :	Not classified	
Pyrophoric liquid:	Not classified	
Acute toxicity (Oral):	Not classified	
Acute toxicity (Inhalation):	Not classified	
Skin corrosion/Irritation:	Not classified	
Germ cell mutagenicity	Not classified	
STOT-repeated exposure:	Not classified	
Hazardous to the aquatic environment – acute hazard:		category 3
Hazardous to the aquatic environment – long term hazard:		category 3

GHS label elements, including precautionary statements

Symbol

None

Signal word

None

Hazard statements

H402 Harmful to aquatic life

H412 Harmful to aquatic life with long lasting effects

Precautionary statements

Prevention

P273 Avoid release to the environment.

Disposal

P501 Dispose of contents and container in accordance with local / regional / national /international regulation.

Other hazards which do not result in classification

Combustion may generate hydrogen fluoride, etc.

3. Composition, information on ingredients

Substance or mixture	: Substance
Chemical name	: cis-1-Chloro-3,3,3-trifluoropropene
Synonym	: (Z)-1-Chloro-3,3,3-trifluoroprop-1-ene HFO-1233zd(Z), HCFO-1233zd(Z), 1233zd(Z), cis-1233zd, 1233Z
Content	: 99.5 % or more
Chemical Formula	: (Z)-CF ₃ CH=CHCl
CAS No	: 99728-16-2
TSCA inventory	: Not registered
EINECS/ELINCS	: Not registered

4. First-aid measures

Description of necessary first-aid measures

Inhalation:

- Remove to fresh air immediately. Lay patient down.
- If breathing has stopped, apply artificial respiration.
- Get medical attention immediately.

Eye Contact:

- Immediately flush eyes for at least 15 minutes.
- Get medical attention immediately.

Skin contact:

- Remove contaminated clothing.
- Immediately flush skin with large amounts of water for at least 15 minutes.
- Get medical attention immediately.

Ingestion:

- Do not induce vomiting. Get medical attention immediately.

Protection of first-aiders:

- Avoid exposure. Use appropriate protection (see section 8).

Most important symptoms /effects, acute and delayed:

- No information

Indication of immediate medical attention and special treatment needed:

- No information.

5. Fire-fighting measures

Suitable extinguishing media:

- Water spray, dry chemical powder, carbon dioxide, appropriate foam.

Unsuitable extinguishing media:

- No information

Specific hazards arising from the chemical:

- Combustion may give HF, HCl, COF₂, CO, CO₂ etc.

Special protection of fire-fighters:

- Fire fighter should wear self-contained breathing apparatus and protective clothing to prevent contact with skin and eyes.
- If safe to do so, remove containers from path of fire.
- If cylinders cannot be moved, spray water on the cylinders and surrounding area to prevent exploding.

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

- Use appropriate protection(see section 8).

Environmental precautions:

- Avoid release to the environment.

Methods and materials for containment and cleaning up:

- Liquid will be vaporized rapidly due to its low boiling point.
- Remove the leaking gas by using explosion-proof ventilating equipment.
- If leakage from the container does not stop, move the container to well-ventilated area.

7. Handling and storage

Precautions for safe handling:

- Use appropriate protection(see section 8).
- Do not heat the container.
- Use explosion-proof equipment at handling facility.
- Handle this product, considering the possibility that hydrogen fluoride might be formed when the liquid is exposed to flame or high temperature surface of metal.
- Avoid release to the environment.

Conditions for safe storage, including any incompatibilities:

- Close valve tightly after use and when empty.
- Keep source of fire away from the storage place.
- Keep in a cool(35°C or less), well-ventilated place.
- Keep away from moisture/ sunlight.

Suitable packaging materials:

- Stainless steel (4301-304-00-I (ISO15510))

8. Exposure control / personal protections

Control parameters:

- ACGIH Threshold Limit Values(2022): No setting¹⁾
- AEL(Central Glass) : allowable exposure limit 100ppm* ²⁾
*8h-time-weighted average concentration

Appropriate engineering control:

- Local exhaust ventilation may be required in specific circumstances.
- Eyewash unit and shower are required near handling place.

Individual protection measures, such as personal protective equipment (PPE):

Hand protection:

- Chemical resistant gloves

Eye/face protection:

- Chemical goggles

Skin protection:

- Chemical-resistant protective clothing

Respiratory protection:

- Use with NIOSH-approved respirator.

Environmental exposure control:

- No information

9. Physical and chemical properties

Appearance (physical state, colour, etc):	Colorless liquid
Odour	: weak ethereal odor
Odour threshold	: No data available
pH	: No data available
Melting point/freezing point	: -101°C
Initial boiling point and boiling range	: 39°C
Flash point	: No flashpoint to boiling point (Tag sealed method)
Evaporation rate	: 1.2(Diethyl Ether=1)
Flammability (solid, gas)	: No data available
Upper/lower flammability or explosive limits	: Upper: None Lower: None (ASTM E681)
Vapor pressure	: 49kPa (at 20°C)
Vapor density	: No data available
Relative density	: 1.31(25°C)
Solubility	: 950ppm (water solubility)
Partition coefficient: n-octanol/water	: log Pow = 2.3
Auto-ignition temperature	: No data available
Decomposing temperature	: No data available
Viscosity	: 0.37 mPa·s (25°C)

10. Stability and reactivity

Reactivity:

- No information

Chemical stability:

- Stable at cold store in closed containers under normal storage and handling conditions.

Others

Possibility of hazardous reactions:

- Combustion may generate hydrogen fluoride, etc.

Conditions to avoid:

- Avoid exposure to flame.

Incompatible materials:

- Avoid mixing with Strong base, oxidant and/or reducer, alkali metal, alkaline-earth metal.

Hazardous decomposition products:

- Hydrogen fluoride, Hydrogen chloride.

11. Toxicological information

Information on the likely routes of exposure:

Eye irritation:	No irritation (Animal experiment)
Skin irritation:	No irritation (Animal experiment)
Skin sensitization:	No sensitization (Animal experiment)

Inhalation: LC50 (rat) >51,000ppm

Ingestion: Oral: LD50 (rat) 6,790mg/kg

Symptoms related to physical, chemical, and toxicological characteristics:

No information

Mutagenicity: -repeated exposure: NOAEL(rat,oral,28days): 40mg/kg/day

Minor cardiomyocyte degeneration / necrosis and inflammatory cell infiltration were observed in males in the 200 mg / kg group and in the male and female hearts in the 1000 mg / kg group.
High levels of ASAT, ALAT, and potassium were

confirmed by blood biochemical examination.
Recovery of all these toxicities was recognized.

Chromosome aberration: Negative

Carcinogenicity: No information

Reproductive and developmental toxicity: No information

Delayed and immediate effects and also chronic effects from short and long term exposure:

Repeated dose toxicity :

-single exposure: No information

Chronic toxicity: NOAEL (rat, inhalation, 13weeks): 5,000ppm

- 1233 Z affected the kidney and liver of rats.

Increases in urea nitrogen concentration, urine volume, kidney and liver weight gain were observed

Numerous measures of toxicity No information

The hazardous chemical is listed by NTP, IARC, or OSHA as a carcinogen:

No information

12. Ecological information

Toxicity:

- 96hLC₅₀(for fish) 46.8mg/L
- 48hEC₅₀(for daphnids) 27.6mg/L
- 72hErC₅₀ (for algae) >97.5mg/L

Persistence and degradability:

- No biodegradability

Bioaccumulative potential:

- No information

Mobility in soil:

- No information

Other adverse effects:

- GWP(100years)<1
- Ozone Depletion Potential≈ 0

13. Disposal considerations

Disposal methods:

- Any disposal practice must be in compliance with country, local, state, and federal laws and regulations (contact country, local or state environmental agency for specific rules).

Disposal of packaging:

- Wash thoroughly and dispose according to country, federal, and local regulations.

14. Transport information

UN number : None
UN proper Shipping name : None
Transport hazard class(es) : None
Packing group if applicable : None
Environmental hazards : None
Special precautions for user : No information
Follow all regulations in your country.

15. Regulatory information

Safety, health and environmental regulations specific for the product in question:

- Follow all regulations in your country.

16. Other information

References

- 1) TLVs and BEIs, ACGIH (2022)
- 2) Company data

Attentions

- We make no warranties regarding the contents shown in this SDS. Users will indemnify and hold harmless us against all actions, claims, damages, costs and expenses resulting from and/or in connection with using the contents shown in this SDS.
- The contents shown in this SDS are for normal handling.
- Special considerations may be required for particular operations.
- The contents shown in this SDS are not exhaustive. Other related documents and information should be consulted before using the product.