

## ***CENTRAL GLASS Co., Ltd.***

Issued: Dec 19, 2014

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# Safety Data Sheet

## 1. Identification

Product name: HFC-245fa  
Product code: CCK-1100  
Recommended use: Industrial use  
Product Description: Liquefied gas  
SDS No.: CCK-1100

### 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  
Person in charge: General Manager, Applied Chemicals Sales Department  
Phone: 81-3-3259-7864  
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## 2. Hazard identification

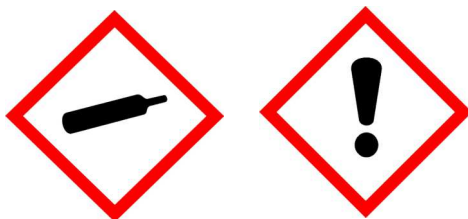
### GHS classification

Gases under pressure          Liquefied gas

STOT-single exposure: category3

### GHS label elements, including precautionary statements

#### Symbol



#### Signal word

Warning

#### Hazard statement

H280 Contains gas under pressure; may explode if heated  
H336 May cause drowsiness or dizziness

#### Precautionary statements

##### Prevention

P271 Use only outdoors or in a well-ventilated area.  
P261 Avoid breathing dust/fume/gas/mist/vapours/spray.

##### Response

P312 Call a doctor, if you feel unwell.

P304+P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.

Storage

P410+P403 Protect from sunlight. Store in a well ventilated place.

P405 Store locked up.

P233 Keep container tightly closed.

Disposal

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

Other hazards which do not result in classification

No Information

### 3. Composition/information on ingredients

Substance/mixture:	Substance
Chemical name:	1,1,1,3,3-pentafluoropropane
Synonym:	HFC-245fa
Content:	99 % or more
Chemical Formula:	CF <sub>3</sub> CH <sub>2</sub> CF <sub>2</sub> H
CAS Registry Number:	460-73-1
EINECS/ELINCS:	419-170-6
TSCA inventory:	Registered

### 4. 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.
Skin contact:	Remove contaminated clothing. Immediately flush skin with large amounts of water for at least 15 minutes.
Ingestion:	Do not induce vomiting. Get medical attention immediately.
Protection of first-aiders:	Avoid exposure. Use appropriate protection (See section 8).
Most important Symptom/effects, acute and delayed:	No information
Indication of immediate medical attention and special treatment needed, if necessary	No information.

### 5. Fire-fighting measures

Flammable properties:	Refer to (9.Physical and Chemical Properties)
Suitable extinguishing media:	Use extinguish media suitable for surrounding circumstances
Special fire-fighting procedures:	Remove containers from path of fire. If cylinders cannot be moved, spray water on the cylinders and surrounding area to prevent exploding. Hydrogen fluoride might be formed in fire.
Special protection of fire-fighters:	Fire fighter should wear self-contained breathing apparatus and protective clothing to prevent contact

with skin and eyes.

## 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures:

Use appropriate protection(see section 8).

Environmental precautions:

If leakage from the container does not stop, move the container to well-ventilated area.

Methods and materials for containment and cleaning up:

If leakage from container does not stop, move the inside liquid to other empty container.

## 7. Handling and storage

Precautions for safe handling:

Use appropriate protection (see section 8).

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.

Carefully open and close the cylinder valve.

Avoid release to the environment.

Conditions for safe storage, including any incompatibilities:

Protect from sunlight. Store in a well-ventilated place.

Keep source of fire away from the storage place.

## 8. Exposure controls/personal protection

Exposure limits:

(AIHA 2015) WEEL 300ppm/8-hr TWA

Appropriate engineering controls:

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 protection:

Chemical goggles

Skin protection:

Chemical-resistant protective clothing

Respiratory protection:

Chemical cartridge respirator, self-contained breathing apparatus , Air-supplied respirator

Environmental exposure control:

No information

## 9. Physical and chemical properties

Appearance (physical state, colour, etc): Colorless liquid

Odour: weak ethereal odour

Odour threshold: No data available

pH: No data available

Melting point/freezing point: No data available

Initial boiling point/boiling range: 15.3°C(1.013 × 10<sup>2</sup> kPa)

Flash point: Not applicable

Evaporation rate: No data available

Flammability(solid,gas): Not applicable

Upper/lower flammability or explosive limits:

Not applicable

Vapor pressure: 121.6kPa (at 20°C)

Vapor density: 4.62(Air = 1)

Relative density : 1.398(5°C)

Solubility(ies):	Water solubility 7.18g/L
Partition coefficient n-octanol/water:	log Pow =1.35
Auto-ignition temperature:	No data available
Decomposing temperature:	No data available
Viscosity:	No data available

## 10. Stability and reactivity

Chemical stability:	Stable at room temperature in closed containers under normal storage and handling conditions.
Conditions to avoid:	Avoid mixing with Strong base, oxidant and/or reducer
Others:	No information

## 11. Toxicological information

Acute toxicity:	LD <sub>50</sub> (rat) > 2,000ppm LC <sub>50</sub> (rat • 4Hr) > 200,000ppm
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Skin corrosion/irritation:	No information
Serious eye damage/eye irritation:	No information
Respiratory or skin sensitization:	No information
Germ cell mutagenicity:	Cell type: Human lymphocytes Result: Weak positive activation without S9 at 30% v/v; not active with S9 up to 70% v/v.

Test Method: Ames test  
Result: negative

Species: Mouse  
Method: Mutagenicity (micronucleus test)  
Result: negative

Carcinogenicity:	No information
Reproductive toxicity:	No information
STOT-single exposure:	Inhalation may cause drowsiness or dizziness.
STOT-repeated exposure:	NOAEL (28days , no specific organs) 50,000ppm
Aspiration hazard:	No information
Chromosome aberration:	No information

## 12. Ecological information

Ecotoxicity:	<i>Toxicity to fish:</i> LC50 Species: Oncorhynchus mykiss (rainbow trout) Value: > 81.8 mg/l Exposure time: 96 h
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*Toxicity to aquatic invertebrates:*  
LC50  
Species: Daphnia magna (Water flea)  
Value: > 97.9 mg/l  
Exposure time: 48 h

*Toxicity to aquatic plants:*  
LC50

	Growth inhibition
	Species: Algae
	Value: > 118 mg/l
	Method: OECD Test Guideline 201
Persistence and degradability:	No information
Bioaccumulative potential:	No information
Mobility in soil:	No information
Global Warming Potential:	1030 (IPCC Fourth Assessment Report: 2007) 858 (IPCC Fifth Assessment Report: 2013) (Relative to carbon dioxide(CO <sub>2</sub> ) for an integration period Of 100 years)
Ozone Depletion Potential:	0 (Relative to CFC-11)
Other adverse effects:	No information

### 13. Disposal considerations

Methods of disposal:	Any disposal practice must be in compliance with country , state, federal and local laws and regulations (contact country, state , federal, or local environmental agency for specific rules)
Disposal of packaging:	Dispose according to country , state, federal and local laws

### 14. Transport information

UN number:	3163
UN proper shipping name:	LIQUEFIED GAS, N.O.S(1,1,1,3,3-pentafluoropropane).
Transport hazard class(es):	Class 2.2 (Non-flammable gas)
Special precautions for user:	No information

Follow all regulations in your country.

### 15. Regulatory information

Follow all regulations in your country.

### 16. Other information

#### Attentions

- The contents and other physical and chemical properties shown in this SDS do not imply any guarantee.
- Precautions and other descriptions in this SDS are for normal handling. Special considerations may be required for particular operations.
- Hazard information in this SDS is not exhaustive. Other related documents and information should be consulted before using the product.