Product name  FE-36

1. Identification

1.1. Product Identifier
Product name  FE-36

1.2. Other means of identification
Product code  419495
UN/ID no  UN1044
Synonyms  None
Chemical Family  No information available

1.3. Recommended use of the chemical and restrictions on use
Recommended use  No information available.
Uses advised against  Consumer use.

1.4. Details of the Supplier of the Safety Data Sheet
Company Name  Tyco Fire Protection Products
One Stanton Street
Marinette, WI 54143-2542
Telephone: 715-735-7411
Contact point  Product Stewardship at 1-715-735-7411
E-mail address  psra@tycofp.com

1.5. Emergency Telephone Number
Emergency telephone  CHEMTREC 001-800-424-9300 or 001-703-527-3887

2. Hazards Identification

Classification
This chemical is considered hazardous by the 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)

Gases Under Pressure  - Compressed Gas

2.2. Label Elements

Signal Word
WARNING

Hazard Statements
Contains gas under pressure; may explode if heated
Precautionary Statements

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

2.3. Hazards Not Otherwise Classified (HNOC)
Contact with product may cause frostbite.

2.4. Other Information

3. Composition/information on Ingredients

3.1. Mixture
The following component(s) in this product are considered hazardous under applicable OSHA(USA)

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>CAS No.</th>
<th>weight-%</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,3,3,3-Hexafluoropropane</td>
<td>690-39-1</td>
<td>60 - 100</td>
</tr>
</tbody>
</table>

4. First aid measures

4.1. Description of first aid measures
General Advice
Call 911 or emergency medical service. Remove and isolate contaminated clothing and shoes.

Eye Contact
Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Skin contact
Wash skin with soap and water. Get medical attention if irritation develops and persists.

Inhalation
Remove to fresh air. If breathing is difficult, give oxygen. (Get medical attention immediately if symptoms occur.).

Ingestion
Rinse mouth. Do not induce vomiting without medical advice. If swallowed, call a poison control center or physician immediately.

Self-Protection of the First Aider
Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

4.2. Most Important Symptoms and Effects, Both Acute and Delayed
Symptoms
Unconsciousness.

4.3. Indication of Any Immediate Medical Attention and Special Treatment Needed
Note to physicians
Treat symptomatically.

5. Fire-fighting measures

5.1. Suitable Extinguishing Media
Product is extinguishing agent. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
5.2. Unsuitable Extinguishing Media
None.

5.3. Specific Hazards Arising from the Chemical
None known.

| Hazardous Combustion Products | Carbon oxides, Fluorinated oxides, Nitrogen oxides (NOx), Oxides of sulfur |

5.4. Explosion Data

| Sensitivity to Mechanical Impact | None. |
| Sensitivity to Static Discharge   | None. |

5.5. Protective Equipment and Precautions for Firefighters
As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear.

6. Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

| Personal Precautions | Ensure adequate ventilation, especially in confined areas. |

OTHER INFORMATION

| For emergency responders | Use personal protection recommended in Section 8. |

6.2. Environmental Precautions

| Environmental Precautions | Prevent further leakage or spillage if safe to do so. Prevent entry into waterways, sewers, basements or confined areas. See Section 12 for additional Ecological Information. |

6.3. Methods and material for containment and cleaning up

| Methods for Containment | Prevent further leakage or spillage if safe to do so. |
| Methods for Cleaning Up  | Pick up and transfer to properly labeled containers. |

7. Handling and Storage

7.1. Precautions for Safe Handling

| Advice on safe handling | Avoid contact with skin and eyes. Handle in accordance with good industrial hygiene and safety practice. |

7.2. Conditions for safe storage, including any incompatibilities

| Storage Conditions | Keep containers tightly closed in a dry, cool and well-ventilated place. |

8. Exposure Controls/Personal Protection
8.1. Control Parameters

Exposure guidelines
This product, as supplied, does not contain any hazardous materials with occupational exposure limits established by the region specific regulatory bodies.

8.2. Appropriate Engineering Controls

Engineering controls
Ensure adequate ventilation, especially in confined areas.

8.3. Individual protection measures, such as personal protective equipment

Eye/Face Protection
Avoid contact with eyes. Tight sealing safety goggles.

Skin and Body Protection
Wear protective gloves and protective clothing.

Respiratory Protection
If exposure limits are exceeded or irritation is experienced, NIOSH/MSHA approved respiratory protection should be worn. Positive-pressure supplied air respirators may be required for high airborne contaminant concentrations. Respiratory protection must be provided in accordance with current local regulations.

Ventilation
Use local exhaust or general dilution ventilation to control exposure with applicable limits.

8.4. General hygiene considerations
Do not eat, drink or smoke when using this product. Handle in accordance with good industrial hygiene and safety practice.

9. Physical and Chemical Properties

9.1. Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Values</th>
<th>Remarks • Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Physical State</td>
<td>Compressed liquefied gas</td>
<td></td>
</tr>
<tr>
<td>Odor</td>
<td>Characteristic</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Color</td>
<td>Colorless</td>
<td></td>
</tr>
<tr>
<td>Odor Threshold</td>
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<td></td>
</tr>
<tr>
<td>pH</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Boiling point / boiling range</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flash Point</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Evaporation Rate</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Flammability limit in air</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Upper flammability limit:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Lower flammability limit:</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor Pressure</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Vapor Density</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Specific gravity</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Water Solubility</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Solubility in Other Solvents</td>
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<td></td>
</tr>
<tr>
<td>Partition coefficient</td>
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<td></td>
</tr>
<tr>
<td>Autoignition Temperature</td>
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<td></td>
</tr>
<tr>
<td>Decomposition Temperature</td>
<td>No data available</td>
<td></td>
</tr>
<tr>
<td>Kinematic viscosity</td>
<td>No data available</td>
<td></td>
</tr>
</tbody>
</table>

10. Stability and Reactivity
10.1. Chemical Stability

Stable under recommended storage conditions.

10.2. Reactivity

No data available

10.3. Possibility of hazardous reactions

None under normal processing.

Hazardous Polymerization Hazardous polymerization does not occur.

10.4. Conditions to Avoid

Extremes of temperature and direct sunlight.

10.5. Incompatible Materials


10.6. Hazardous decomposition products


11. Toxicological Information

11.1. Information on Likely Routes of Exposure

Product information

Inhalation
In high concentration the gas may cause a suffocation. Victim may not be aware of asphyxiation. In confined or poorly ventilated areas, vapors can readily accumulate and can cause unconsciousness and death.

Eye Contact
Contact with product may cause frostbite.

Skin contact
Contact with product may cause frostbite.

Ingestion
Not an expected route of exposure.

Component Information

Acute Toxicity

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Oral LD50</th>
<th>Dermal LD50</th>
<th>Inhalation LC50</th>
</tr>
</thead>
<tbody>
<tr>
<td>1,1,1,3,3,3-Hexafluoropropane 690-39-1</td>
<td>-</td>
<td>-</td>
<td>914000 ppm (rat) 1 hr.</td>
</tr>
</tbody>
</table>

11.2. Information on Toxicological Effects

Symptoms
No information available.

11.3. Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin Corrosion/Irritation No information available.
Serious eye damage/eye irritation No information available.
Sensitization No information available.
Germ Cell Mutagenicity No information available.
Carcinogenicity No information available.
Reproductive Toxicity
Lack of oxygen during pregnancy has produced developmental abnormalities in humans and experimental animals.

STOT - Single Exposure
No information available.

STOT - Repeated Exposure
No information available.

Target organ effects
Respiratory System.

Aspiration Hazard
No information available.

11.4. Numerical Measures of Toxicity - No information available

12. Ecological Information

12.1. Ecotoxicity
Not classified.

100% of the mixture consists of components(s) of unknown hazards to the aquatic environment

12.2. Persistence and Degradability
No information available.

12.3. Bioaccumulation
No information available.

12.4. Other Adverse Effects
No information available

13. Disposal Considerations

13.1. Waste Treatment Methods
Disposal of wastes
Disposal should be in accordance with applicable regional, national and local laws and regulations.

Contaminated Packaging
Do not reuse container.

14. Transport Information

DOT
UN/ID no
UN1044
Proper Shipping Name
Fire extinguishers
Description
UN1044, Fire extinguishers, 2.2
Hazard class
2.2
Special Provisions
18, 110
Emergency Response Guide Number
126

TDG
UN/ID no
UN1044
Description
UN1044, Fire extinguishers, 2.2
Proper Shipping Name
Fire extinguishers
Hazard class
2.2
Product code 419495 / Product name FE-36 / PAGE 7 / 8

MEX
UN/ID no  UN1044
Description  UN1044, Fire extinguishers, 2.2
Proper Shipping Name  Fire extinguishers
Hazard class  2.2

ICAO (air)
UN/ID no  UN1044
Description  UN1044, Fire extinguishers, 2.2
Proper Shipping Name  Fire extinguishers
Hazard class  2.2
Special Provisions  A19

IATA
UN/ID no  UN1044
Description  UN1044, Fire extinguishers, 2.2
Proper Shipping Name  Fire extinguishers
Proper Shipping Name  Fire extinguishers
Hazard class  2.2
ERG Code  2L
Special Provisions  A19

IMDG
UN/ID no  UN1044
Description  UN1044, Fire extinguishers, 2.2
Proper Shipping Name  Fire extinguishers
Proper Shipping Name  Fire extinguishers
Hazard class  2.2
EmS-No  F-C, S-V
Special Provisions  225

15. Regulatory Information
15.1. International Inventories
TSCA  Complies
DSL/NDSL  Complies
ENCS  Complies
IECSC  Complies
KECL  Does not comply
PICCS  Does not comply
AICS  Complies

Legend:
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. US Federal Regulations
SARA 313
Section 313 of Title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA). This product does not contain any chemicals which are subject to the reporting requirements of the Act and Title 40 of the Code of Federal Regulations, Part 372
SARA 311/312 Hazard Categories

<table>
<thead>
<tr>
<th>Category</th>
<th>Yes/No</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute Health Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Chronic health hazard</td>
<td>No</td>
</tr>
<tr>
<td>Fire Hazard</td>
<td>No</td>
</tr>
<tr>
<td>Sudden Release of Pressure Hazard</td>
<td>Yes</td>
</tr>
<tr>
<td>Reactive Hazard</td>
<td>No</td>
</tr>
</tbody>
</table>

CWA (Clean Water Act)
This product does not contain any substances regulated as pollutants pursuant to the Clean Water Act (40 CFR 122.21 and 40 CFR 122.42)

CERCLA
This material, as supplied, does not contain any substances regulated as hazardous substances under the Comprehensive Environmental Response Compensation and Liability Act (CERCLA) (40 CFR 302) or the Superfund Amendments and Reauthorization Act (SARA) (40 CFR 355). There may be specific reporting requirements at the local, regional, or state level pertaining to releases of this material

15.3. US State Regulations

U.S. State Right-to-Know Regulations
This product does not contain any substances regulated by state right-to-know regulations

16. Other information, including date of preparation of the last revision

<table>
<thead>
<tr>
<th>NFPA</th>
<th>Health Hazards</th>
<th>Flammability</th>
<th>Instability</th>
<th>Physical and chemical properties</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>HMIS</td>
<td>Health Hazards</td>
<td>Flammability</td>
<td>Physical Hazards</td>
<td>Personal Protection</td>
</tr>
<tr>
<td></td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>X</td>
</tr>
</tbody>
</table>

Revision date 27-Nov-2017
Revision note No information available.
Disclaimer
The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

End of Safety Data Sheet