SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier
- Trade name: IODINE PENTAFLUORIDE
- Chemical name: Iodine pentafluoride
- Molecular formula: IF5

1.2 Relevant identified uses of the substance or mixture and uses advised against

Uses of the Substance / Mixture
- Chemical intermediate

1.3 Details of the supplier of the safety data sheet

Company
SOLVAY FLUORIDES, LLC
3737 Buffalo Speedway,
Suite 800,
Houston, TX 77098
USA
Tel: 800-515-6065

1.4 Emergency telephone

FOR EMERGENCIES INVOLVING A SPILL, LEAK, FIRE, EXPOSURE OR ACCIDENT; 24 HR CONTACT NUMBER: CHEMTREC 800-424-9300 within the United States and Canada, or 703-527-3887 for international collect calls.

SECTION 2: Hazards identification

Although OSHA has not adopted the environmental portion of the GHS regulations, this document may include information on environmental effects.

2.1 Classification of the substance or mixture

HCS 2012 (29 CFR 1910.1200)

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oxidizing liquids, Category 2</td>
<td>H272: May intensify fire; oxidizer.</td>
</tr>
<tr>
<td>Acute toxicity, Category 2</td>
<td>H300: Fatal if swallowed.</td>
</tr>
<tr>
<td>Acute toxicity, Category 1</td>
<td>H330: Fatal if inhaled.</td>
</tr>
<tr>
<td>Acute toxicity, Category 1</td>
<td>H310: Fatal in contact with skin.</td>
</tr>
<tr>
<td>Skin corrosion, Category 1A</td>
<td>H314: Causes severe skin burns and eye damage.</td>
</tr>
<tr>
<td>Serious eye damage, Category 1</td>
<td>H318: Causes serious eye damage.</td>
</tr>
<tr>
<td>Specific target organ systemic toxicity - repeated exposure, Category 1</td>
<td>H372: Causes damage to organs through prolonged or repeated exposure if swallowed. Oral</td>
</tr>
<tr>
<td>Specific target organ systemic toxicity - repeated exposure, Category 1</td>
<td>H372: Causes damage to organs through prolonged or repeated exposure if inhaled. Inhalation</td>
</tr>
</tbody>
</table>
2.2 Label elements

**HCS 2012 (29 CFR 1910.1200)**

**Pictogram**

- **Signal Word**
  - Danger

**Hazard Statements**
- H272 May intensify fire; oxidizer.
- H300 + H310 + H330 Fatal if swallowed, in contact with skin or if inhaled.
- H314 Causes severe skin burns and eye damage.
- H372 Causes damage to organs through prolonged or repeated exposure if swallowed.
- H372 Causes damage to organs through prolonged or repeated exposure if inhaled.

**Precautionary Statements**

**Prevention**
- P210 Keep away from heat.
- P220 Keep/Store away from clothing/ combustible materials.
- P221 Take any precaution to avoid mixing with combustibles.
- P260 Do not breathe dust/ fume/ gas/ mist/ vapors/ spray.
- P262 Do not get in eyes, on skin, or on clothing.
- P264 Wash skin thoroughly after handling.
- P270 Do not eat, drink or smoke when using this product.
- P271 Use only outdoors or in a well-ventilated area.
- P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
- P284 Wear respiratory protection.

**Response**
- P301 + P310 + P330 IF SWALLOWED: Immediately call a POISON CENTER/doctor. Rinse mouth.
- P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
- P302 + P350 + P310 IF ON SKIN: Gently wash with plenty of soap and water. Immediately call a POISON CENTER or doctor/ physician.
- P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
- P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/doctor.
- P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/doctor.
- P314 Get medical advice/ attention if you feel unwell.
- P362 Take off contaminated clothing and wash before reuse.
- P370 + P378 In case of fire: Use dry sand, dry chemical or alcohol-resistant foam to extinguish.

**Storage**
- P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
- P405 Store locked up.

**Disposal**
- P501 Dispose of contents/ container to an approved waste disposal plant.
2.3 Other hazards which do not result in classification

- Reacts violently with water.
- H400: Very toxic to aquatic life.
- H410: Very toxic to aquatic life with long lasting effects.
- Oxidizing
- Contact with combustible material may cause fire.
- Toxic by inhalation, in contact with skin and if swallowed.
- Causes severe burns.
- Reacts on contact with humidity in the air or with water to release of hydrofluoric acid.
- Reacts violently with water.

SECTION 3: Composition/information on ingredients

3.1 Substance

Hazardous Ingredients and Impurities

<table>
<thead>
<tr>
<th>Chemical name</th>
<th>Identification number CAS-No.</th>
<th>Concentration [%]</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine fluoride (IF5)</td>
<td>7783-66-6</td>
<td>&gt;= 99</td>
</tr>
<tr>
<td>Iodine fluoride (IF5)</td>
<td>7783-66-6</td>
<td>&gt;= 99 - &lt; 100</td>
</tr>
</tbody>
</table>

The specific chemical identity and/or exact percentage (concentration) of composition has been withheld as a trade secret.

3.2 Mixture

Not applicable, this product is a substance.

SECTION 4: First aid measures

4.1 Description of first-aid measures

**In case of inhalation**

- In case of accident by inhalation: remove casualty to fresh air and keep at rest.
- Oxygen or artificial respiration if needed.
- Victim to lie down in the recovery position, cover and keep him warm.
- Call a physician immediately.
- Take victim immediately to hospital.

**In case of skin contact**

- Call a physician immediately.
- Take victim immediately to hospital.
- Take off contaminated clothing and shoes immediately.
- Wash off with plenty of water.
- Immediately apply calcium gluconate gel 2.5% and massage into the affected area using rubber gloves; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved.
- If fingers/finger nails are touched, even if there is no pain, dip them in a bath of 5% calcium gluconate for 15 to 20 minutes.
- Keep warm and in a quiet place.
In case of eye contact
- Immediate medical attention is required.
- Take victim immediately to hospital.
- Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes.
- Rinse the eyes with a calcium gluconate 1% solution in physiological serum (10 ml of calcium gluconate 10% in 90 ml of physiological serum)
- In the case of difficulty of opening the lids, administer an analgesic eye wash (oxybuprocaine).

In case of ingestion
- Call a physician immediately.
- Take victim immediately to hospital.
- If victim is conscious:
  - If swallowed, rinse mouth with water (only if the person is conscious).
  - Give to drink a 1% aqueous calcium gluconate solution.
  - Do NOT induce vomiting.
  - Artificial respiration and/or oxygen may be necessary.
- If victim is unconscious:
  - Oxygen or artificial respiration if needed.

4.2 Most important symptoms and effects, both acute and delayed

In case of inhalation
Symptoms
- Breathing difficulties

Effects
- Inhalation of vapors is irritating to the respiratory system, may cause throat pain and cough.
- Effects of breathing high concentrations of vapor may include:
  - pulmonary edema
  - Chemical pneumonitis

Repeated or prolonged exposure
- sore throat
- Nose bleeding
- chronic bronchitis

In case of skin contact
Symptoms
- Irritation
- Redness
- Swelling of tissue
- Burn

Effects
- Causes severe burns.

In case of eye contact
Symptoms
- Lachrymation
- Redness
- Swelling of tissue
- Burn

Effects
In case of ingestion

Symptoms
- Nausea
- Bloody vomiting
- Abdominal pain
- Diarrhea
- Cough
- Severe shortness of breath

Effects
- If ingested, severe burns of the mouth and throat, as well as a danger of perforation of the esophagus and the stomach.
- Risk of throat (o)edema and suffocation.
- Risk of chemical pneumonitis from product inhalation.
- Risk of convulsions, loss of consciousness, deep coma and cardiopulmonary arrest.

4.3 Indication of any immediate medical attention and special treatment needed

Notes to physician
- If skin irritation occurs:
- Immediately apply calcium gluconate gel 2.5% and massage into the affected area using rubber gloves; continue to massage while repeatedly applying gel until 15 minutes after pain is relieved.

SECTION 5: Firefighting measures

Flash point none
Autoignition temperature no data available
Flammability / Explosive limit no data available

5.1 Extinguishing media

Suitable extinguishing media
- Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable extinguishing media
- Water may be ineffective.

5.2 Special hazards arising from the substance or mixture

Specific hazards during fire fighting
- Oxidizing
- Combustible material
- Organic Substances
- May cause fire.
- Risk of explosion.
- Contact with water may produce heat release and presents risks of splashing.
- Contact with water liberates hazardous gas.

Hazardous combustion products:
- Hydrogen fluoride
- The release of other hazardous decomposition products is possible.

5.3 Advice for firefighters

**Special protective equipment for fire-fighters**
- Evacuate personnel to safe areas.
- In the event of fire, wear self-contained breathing apparatus.
- When intervention in close proximity wear acid resistant over suit.
- Clean contaminated surface thoroughly.

**Further information**
- Cool containers/tanks with water spray.
- Keep from any possible contact with water.
- Approach from upwind.
- After the fire, proceed rapidly with cleaning of surfaces exposed to the fumes in order to limit equipment damage.

### SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

**Advice for non-emergency personnel**
- Prevent further leakage or spillage if safe to do so.
- Keep away from incompatible products

**Advice for emergency responders**
- Evacuate personnel to safe areas.
- Keep people away from and upwind of spill/leak.
- Use personal protective equipment.
- Drying of this product on clothing or combustible materials may cause fire.

6.2 Environmental precautions

- Discharge into the environment must be avoided.
- If the product contaminates rivers and lakes or drains inform respective authorities.
- Prevent product from entering sewage system.

6.3 Methods and materials for containment and cleaning up

- Dam up.
- Soak up with inert absorbent material.
- Do not add chemical products.
- Treat recovered material as described in the section "Disposal considerations".
- Never return spills in original containers for re-use.

6.4 Reference to other sections

- Refer to protective measures listed in sections 7 and 8.

### SECTION 7: Handling and storage

7.1 Precautions for safe handling

- Use only in well-ventilated areas.
- Keep away from heat.
- Use only equipment and materials which are compatible with the product.
- Before all operations, passivate the piping circuits and vessels according to the procedure recommended by the
producer.
- Never return unused material to storage receptacle.
- Containers and equipment used to handle the product should be used exclusively for that product.
- Use inert gas for pneumatic transferring or handling the product.
- Purge piping circuits and equipment with nitrogen.
- Keep away from water.

Hygiene measures
- Use only in an area equipped with a safety shower.
- Eye wash bottle with pure water
- When using do not eat, drink or smoke.
- Take off all contaminated clothing immediately.
- Handle in accordance with good industrial hygiene and safety practice.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures/Storage conditions
- Keep only in the original container.
- Store in a receptacle equipped with a vent.
- Store in a well-ventilated place. Keep cool.
- Keep in properly labeled containers.
- Keep container closed.
- Keep in a contained area
- Keep away from heat/sparks/open flames/hot surfaces. No smoking.
- Electrical equipment should be protected to the appropriate standard.
- Keep away from incompatible products

Packaging material

Suitable material
- Stainless steel cleaned and passivated
- Polytetrafluoroethylene
- Polychlorotrifluoroethylene (PCTFE)

7.3 Specific end use(s)
- Contact your supplier for additional information

SECTION 8: Exposure controls/personal protection

Introductory Remarks: These recommendations provide general guidance for handling this product. Because specific work environments and material handling practices vary, safety procedures should be developed for each intended application. Assistance with selection, use and maintenance of worker protection equipment is generally available from equipment manufacturers.

8.1 Control parameters

Components with workplace occupational exposure limits

<table>
<thead>
<tr>
<th>Ingredients</th>
<th>Value type</th>
<th>Value</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine fluoride (IF5)</td>
<td>TWA</td>
<td>2.5 mg/m³</td>
<td>Occupational Safety and Health Administration</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Table Z-1 Limits for Air Contaminants</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Expressed as : Fluorine</td>
</tr>
<tr>
<td>Iodine fluoride (IF5)</td>
<td>TWA</td>
<td>2.5 mg/m³</td>
<td>American Conference of Governmental</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Industrial Hygienists</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>- Expressed as : Fluorine</td>
</tr>
<tr>
<td>Iodine fluoride (IF5)</td>
<td>PEL</td>
<td>2.5 mg/m³</td>
<td></td>
</tr>
</tbody>
</table>
SAFETY DATA SHEET

IODINE PENTAFLUORIDE

Revision Date 12/22/2017

Expressed as : Fluorine

<table>
<thead>
<tr>
<th>Ingredient</th>
<th>Value type</th>
<th>Value</th>
<th>Basis</th>
</tr>
</thead>
<tbody>
<tr>
<td>Iodine fluoride (IF5)</td>
<td>BEI</td>
<td>2 mg/l</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fluoride Urine</td>
<td>Prior to shift (16 hours after exposure ceases)</td>
</tr>
<tr>
<td>Iodine fluoride (IF5)</td>
<td>BEI</td>
<td>3 mg/l</td>
<td>American Conference of Governmental Industrial Hygienists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Fluoride Urine</td>
<td>End of shift (As soon as possible after exposure ceases)</td>
</tr>
</tbody>
</table>

8.2 Exposure controls

Control measures

Engineering measures
- Ensure adequate ventilation.
- Apply technical measures to comply with the occupational exposure limits.
- Refer to protective measures listed in sections 7 and 8.

Individual protection measures

Respiratory protection
- In the case of dust or aerosol formation use respirator with an approved filter.
- Self-contained breathing apparatus in confined spaces/insufficient oxygen/in case of large uncontrolled emissions/in all circumstances when the mask and cartridge do not give adequate protection.
- Use only respiratory protection that conforms to international/national standards.
- Use NIOSH approved respiratory protection.

Hand protection
- Wear suitable gloves.
- Take note of the information given by the producer concerning permeability and break through times, and of special workplace conditions (mechanical strain, duration of contact).

Suitable material
- butyl-rubber

Eye protection
- Chemical resistant goggles must be worn.
- If splashes are likely to occur, wear:
  - Tightly fitting safety goggles
  - Face-shield

Skin and body protection
- Protective suit
- Apron/boots of butyl rubber if risk of splashing.

Hygiene measures
- Use only in an area equipped with a safety shower.
- Eye wash bottle with pure water
- When using do not eat, drink or smoke.
- Take off all contaminated clothing immediately.
- Handle in accordance with good industrial hygiene and safety practice.

### SECTION 9: Physical and chemical properties

Physical and Chemical properties here represent typical properties of this product. Contact the business area using the Product information phone number in Section 1 for its exact specifications.

#### 9.1 Information on basic physical and chemical properties

<table>
<thead>
<tr>
<th>Property</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance</td>
<td>Fuming liquid when in contact with air</td>
</tr>
<tr>
<td>Form</td>
<td>Liquid</td>
</tr>
<tr>
<td>Physical state</td>
<td>Liquid</td>
</tr>
<tr>
<td>Color</td>
<td>Yellow</td>
</tr>
<tr>
<td>Odor</td>
<td>Pungent</td>
</tr>
<tr>
<td>Odor Threshold</td>
<td>No data available</td>
</tr>
<tr>
<td>Molecular weight</td>
<td>221.9 g/mol</td>
</tr>
<tr>
<td>pH</td>
<td>Not applicable</td>
</tr>
<tr>
<td>pKa</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Melting point/freezing point</td>
<td>Melting point/range: 48.9 °F (9.4 °C)</td>
</tr>
<tr>
<td>Initial boiling point and boiling range</td>
<td>Boiling point/boiling range: 212.9 °F (100.5 °C)</td>
</tr>
<tr>
<td>Flash point</td>
<td>None</td>
</tr>
<tr>
<td>Evaporation rate (Butylacetate = 1)</td>
<td>No data available</td>
</tr>
<tr>
<td>Flammability (solid, gas)</td>
<td>Not applicable</td>
</tr>
<tr>
<td>Flammability (liquids)</td>
<td>The product is not flammable.</td>
</tr>
<tr>
<td>Flammability / Explosive limit</td>
<td>Explosiveness: Not explosive</td>
</tr>
<tr>
<td>Autoignition temperature</td>
<td>No data available</td>
</tr>
<tr>
<td>Vapor pressure</td>
<td>20 mmHg (26.66 hPa) (68 °F (20 °C))</td>
</tr>
<tr>
<td>Vapor density</td>
<td>No data available</td>
</tr>
<tr>
<td>Density</td>
<td>Bulk density: Not applicable</td>
</tr>
<tr>
<td>Relative density</td>
<td>3.19</td>
</tr>
</tbody>
</table>
Solubility
Water solubility: instantaneous hydrolysis, Reacts violently with water.

Partition coefficient: n-octanol/water
Not applicable

 Decomposition temperature
> 752 °F (> 400 °C)

Viscosity
Viscosity, dynamic : 2.2 mPa.s ( 77 °F (25 °C))

Explosive properties
no data available

Oxidizing properties
The substance or mixture is classified as oxidizing with the category 2.
Oxidizing

9.2 Other information
Reactions with water / air
Reacts violently with water.

Flammable gases:
Toxic gases:
Corrosive gases:

SECTION 10: Stability and reactivity

10.1 Reactivity
- Reacts violently with water.
- May be corrosive to metals.
- Risk of violent reaction.
- Risk of explosion.

10.2 Chemical stability
- Stable under recommended storage conditions.
- Decomposes in contact with water.
- Risk of violent reaction.

10.3 Possibility of hazardous reactions
- no data available

10.4 Conditions to avoid
- Heat, flames and sparks.
- Exposure to moisture.
- To avoid thermal decomposition, do not overheat.

10.5 Incompatible materials
- Water
- Acids
- Bases
- Metals
- Combustible material
- Reducing agents
- Amines
- Organic materials

10.6 Hazardous decomposition products
- Hydrogen fluoride
- The release of other hazardous decomposition products is possible.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Acute toxicity

Acute oral toxicity
- study scientifically unjustified
- study scientifically unjustified

Acute inhalation toxicity
- study scientifically unjustified
- study scientifically unjustified

Acute dermal toxicity
- no data available

Acute toxicity (other routes of administration)
- no data available

Skin corrosion/irritation
- Corrosive
- Corrosive

Serious eye damage/eye irritation
- Corrosive
- Corrosive

Respiratory or skin sensitization
- study scientifically unjustified
- study scientifically unjustified
Mutagenicity

Genotoxicity in vitro

By analogy
Test substance: Sodium fluoride
Test substance: Potassium iodide
Test substance: Hydrogen fluoride

in vitro test
Tests on bacterial or mammalian cell cultures did not show mutagenic effects.

By analogy
Test substance: Sodium fluoride
Test substance: Potassium iodide
Test substance: Hydrogen fluoride

Genotoxicity in vivo

no data available

Carcinogenicity

no data available

This product does not contain any ingredient designated as probable or suspected human carcinogens by:
NTP
IARC
OSHA

Toxicity for reproduction and development

Toxicity to reproduction / fertility
no data available

Developmental Toxicity/Teratogenicity
no data available
STOT

STOT-single exposure

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

The substance or mixture is not classified as specific target organ toxicant, single exposure according to GHS criteria.

STOT-repeated exposure

Routes of exposure: Inhalation, Ingestion
The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1 according to GHS criteria.

Routes of exposure: Inhalation, Ingestion
The substance or mixture is classified as specific target organ toxicant, repeated exposure, category 1 according to GHS criteria.

By analogy

Oral - Mouse, male and female
LOAEL: 50 ppm
Test substance: Sodium fluoride
Target Organs: Skeleton

By analogy

Oral - Rat
LOAEL: 0.55 mg/kg
Test substance: Potassium iodide
Target Organs: Thyroid

By analogy

Oral - Mouse, male and female
LOAEL: 50 ppm
Test substance: Sodium fluoride
Target Organs: Skeleton

By analogy

Oral - Rat
LOAEL: 0.55 mg/kg
Test substance: Potassium iodide
Target Organs: Thyroid

Experience with human exposure

no data available

Aspiration toxicity

no data available
12.1 Toxicity

Aquatic Compartment

Acute toxicity to fish

By analogy

LC50 - 96 h: 51 mg/l - Fishes, Salmo gairdneri
Static test

Test substance: Sodium fluoride
Fresh water

By analogy

LC50 - 96 h: 220 mg/l - Oncorhynchus mykiss (rainbow trout)
Static test

Test substance: Iodine compounds
Fresh water

By analogy

LC50 - 96 h: 51 mg/l - Fishes, Salmo gairdneri
Static test

Test substance: Sodium fluoride
Fresh water

By analogy

LC50 - 96 h: 220 mg/l - Oncorhynchus mykiss (rainbow trout)
Static test

Test substance: Iodine compounds
Fresh water
Acute toxicity to daphnia and other aquatic invertebrates.

By analogy

EC50 - 48 h : 26 mg/l - Daphnia magna (Water flea)
static test
Test substance: Sodium fluoride
Fresh water

By analogy

EC50 - 48 h : 0.17 mg/l - Daphnia magna (Water flea)
static test
Test substance: Iodine compounds
Fresh water

By analogy

EC50 - 48 h : 26 mg/l - Daphnia magna (Water flea)
static test
Test substance: Sodium fluoride
Fresh water

By analogy

EC50 - 48 h : 0.17 mg/l - Daphnia magna (Water flea)
static test
Test substance: Iodine compounds
Fresh water

Toxicity to aquatic plants

By analogy

EC50 - 96 h : 43 mg/l - Algae
static test
Test substance: Sodium fluoride
Fresh water

By analogy

EC50 - 72 h : 0.13 mg/l - Desmodesmus subspicatus (green algae)
static test
Test substance: Iodine compounds
Fresh water

By analogy

EC50 - 96 h : 43 mg/l - Algae
static test
Test substance: Sodium fluoride
Fresh water

By analogy

EC50 - 72 h : 0.13 mg/l - Desmodesmus subspicatus (green algae)
static test
Test substance: Iodine compounds
Fresh water
Toxicity to microorganisms: no data available

Chronic toxicity to fish: no data available

Chronic toxicity to daphnia and other aquatic invertebrates: no data available

Chronic Toxicity to aquatic plants: no data available

12.2 Persistence and degradability

**Abiotic degradation**

**Stability in water**

- Water/soil: instantaneous hydrolysis,
- Water/soil: instantaneous hydrolysis,

**Physical- and photo-chemical elimination**

- no data available

**Biodegradation**

**Biodegradability**

The methods for determining biodegradability are not applicable to inorganic substances.

The methods for determining biodegradability are not applicable to inorganic substances.

12.3 Bioaccumulative potential

**Partition coefficient: n-octanol/water**

- Not applicable, inorganic substance

**Bioconcentration factor (BCF)**

- Not applicable, inorganic substance
12.4 Mobility in soil

**Adsorption potential (Koc)**
- Water/soil: considerable solubility and mobility of hydrolysis products
- Water/soil: considerable solubility and mobility of hydrolysis products

**Known distribution to environmental compartments**
- no data available

12.5 Results of PBT and vPvB assessment
- Not applicable

12.6 Other adverse effects
- no data available

---

**SECTION 13: Disposal considerations**

13.1 Waste treatment methods

**Product Disposal**
- In accordance with local and national regulations.
- Refer to manufacturer/supplier for information on recovery/recycling.

**Waste Code**
- Environmental Protection Agency
- Hazardous Waste – YES
- RCRA Hazardous Waste (40 CFR 302)
  - D001 - Ignitable waste – (I)
  - D002 - Corrosive waste – (C)

**Advice on cleaning and disposal of packaging**
- To avoid treatments, as far as possible, use dedicated containers.
- Dispose of as unused product.
- In accordance with local and national regulations.
- Must be incinerated in a suitable incineration plant holding a permit delivered by the competent authorities.

---

**SECTION 14: Transport information**

Transportation status: IMPORTANT! Statements below provide additional data on listed transport classification.
The listed Transportation Classification does not address regulatory variations due to changes in package size, mode of shipment or other regulatory descriptors.

**DOT**

14.1 UN number
- UN 2495
14.2 Proper shipping name: IODINE PENTAFLUORIDE

14.3 Transport hazard class: 5.1
   Subsidiary hazard class: 6.1, 8
   Label(s): 5.1 (6.1, 8)

14.4 Packing group
   Packing group: I
   ERG No: 144

14.5 Environmental hazards
   Marine pollutant: YES
   Marine Pollutant

TDG

14.1 UN number: UN 2495

14.2 Proper shipping name: IODINE PENTAFLUORIDE

14.3 Transport hazard class: 5.1
   Subsidiary hazard class: 6.1, 8
   Label(s): 5.1 (6.1, 8)

14.4 Packing group
   Packing group: I
   ERG No: 144

14.5 Environmental hazards
   Marine pollutant: YES
   Marine Pollutant

NOM

14.1 UN number: UN 2495

14.2 Proper shipping name: IODINE PENTAFLUORIDE

14.3 Transport hazard class: 5.1
   Subsidiary hazard class: 6.1, 8
   Label(s): 5.1 (6.1, 8)

14.4 Packing group
   Packing group: I
   ERG No: 144

14.5 Environmental hazards
   Marine pollutant: NO

IMDG

14.1 UN number: UN 2495

14.2 Proper shipping name: IODINE PENTAFLUORIDE

14.3 Transport hazard class: 5.1
<table>
<thead>
<tr>
<th>Subsidiary hazard class</th>
<th>6.1, 8</th>
</tr>
</thead>
<tbody>
<tr>
<td>Label(s)</td>
<td>5.1 (6.1, 8)</td>
</tr>
</tbody>
</table>

**14.4 Packing group**

| Packing group | I |

**14.5 Environmental hazards**

| Marine pollutant | YES |

**14.6 Special precautions for user**

| EmS | F-A, S-Q |

For personal protection see section 8.

**IATA**

<table>
<thead>
<tr>
<th>14.1 UN number</th>
<th>UN 2495</th>
</tr>
</thead>
<tbody>
<tr>
<td>14.2 Proper shipping name</td>
<td>Not permitted for transport</td>
</tr>
<tr>
<td>14.3 Transport hazard class</td>
<td>Not permitted for transport</td>
</tr>
<tr>
<td>14.4 Packing group</td>
<td>Not permitted for transport</td>
</tr>
<tr>
<td>Packing instruction (cargo aircraft)</td>
<td>Not permitted for transport</td>
</tr>
<tr>
<td>Packing instruction (passenger aircraft)</td>
<td>Not permitted for transport</td>
</tr>
</tbody>
</table>

**14.5 Environmental hazards**

| YES |

**14.6 Special precautions for user**

For personal protection see section 8.

Note: The above regulatory prescriptions are those valid on the date of publication of this sheet. Given the possible evolution of transportation regulations for hazardous materials, it would be advisable to check their validity with your sales office.
SECTION 15: Regulatory information

15.1 Notification status

<table>
<thead>
<tr>
<th>Inventory Information</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States TSCA Inventory</td>
<td>Listed on Inventory</td>
</tr>
<tr>
<td>Mexico INSQ (INSQ)</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>Canadian Domestic Substances List (DSL)</td>
<td>One or more components not listed on inventory</td>
</tr>
<tr>
<td>New Zealand. Inventory of Chemical Substances</td>
<td>In compliance with the inventory</td>
</tr>
<tr>
<td>Australia Inventory of Chemical Substances (AICS)</td>
<td>One or more components not listed on inventory</td>
</tr>
<tr>
<td>Japan. CSCL - Inventory of Existing and New Chemical Substances</td>
<td>Listed on Inventory</td>
</tr>
<tr>
<td>Korea. Korean Existing Chemicals Inventory (KECI)</td>
<td>Listed on Inventory</td>
</tr>
<tr>
<td>China. Inventory of Existing Chemical Substances in China (IECSC)</td>
<td>Listed on Inventory</td>
</tr>
<tr>
<td>Philippines Inventory of Chemicals and Chemical Substances (PICCS)</td>
<td>Listed on Inventory</td>
</tr>
<tr>
<td>EU. European Registration, Evaluation, Authorisation and Restriction of Chemical (REACH)</td>
<td>If product is purchased from Solvay in Europe it is in compliance with REACH, if not please contact the supplier.</td>
</tr>
</tbody>
</table>

15.2 Federal Regulations

US. EPA EPCRA SARA Title III

SARA HAZARD DESIGNATION SECTIONS 311/312 (40 CFR 370)

| Oxidizer (liquid, solid or gas)                             | Yes                                             |
| Acute toxicity (any route of exposure)                      | Yes                                             |
| Skin corrosion or irritation                                 | Yes                                             |
| Serious eye damage or eye irritation                         | Yes                                             |
| Specific target organ toxicity (single or repeated exposure)| Yes                                             |

The categories not mentioned are not relevant for the product.

Section 313 Toxic Chemicals (40 CFR 372.65)

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

Section 302 Emergency Planning Extremely Hazardous Substance Threshold Planning Quantity (40 CFR 355)

This material does not contain any components with a section 302 EHS TPQ.

Section 302 Emergency Planning Extremely Hazardous Substance Reportable Quantity (40 CFR 355)

This material does not contain any components with a SARA 302 RQ.

Section 304 Emergency Release Notification Reportable Quantity (40 CFR 355)

This material does not contain any components with a section 304 EHS RQ.
US. EPA CERCLA Hazardous Substances and Reportable Quantities (40 CFR 302.4)
This material does not contain any components with a CERCLA RQ.

15.3 State Regulations
US. California Safe Drinking Water & Toxic Enforcement Act (Proposition 65)
This product does not contain any chemicals known to the State of California to cause cancer, birth, or any other reproductive defects.

SECTION 16: Other information

NFPA (National Fire Protection Association) - Classification

<table>
<thead>
<tr>
<th>Health</th>
<th>4 severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0 minimal</td>
</tr>
<tr>
<td>Instability or Reactivity</td>
<td>1 slight</td>
</tr>
<tr>
<td>Special Notices</td>
<td>W Water Reactive</td>
</tr>
</tbody>
</table>

HMIS (Hazardous Materials Identification System (Paint & Coating)) - Classification

<table>
<thead>
<tr>
<th>Health</th>
<th>4 severe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Flammability</td>
<td>0 minimal</td>
</tr>
<tr>
<td>Reactivity</td>
<td>1 slight</td>
</tr>
<tr>
<td>PPE</td>
<td>Determined by User; dependent on local conditions</td>
</tr>
</tbody>
</table>

Further information
- Product evaluated under the US GHS format.

Date Prepared: 12/22/2017

Key or legend to abbreviations and acronyms used in the safety data sheet
- PEL Permissible exposure limit
- TWA 8-hour, time-weighted average
- SAEL Solvay Acceptable Exposure Limit
- ACGIH American Conference of Governmental Industrial Hygienists
- OSHA Occupational Safety and Health Administration
- NTP National Toxicology Program
- IARC International Agency for Research on Cancer
- NIOSH National Institute for Occupational Safety and Health

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. Such information is only given as a guidance to help the user handle, use, process, store, transport, dispose, and release the product in satisfactory safety conditions and is not to be considered as a warranty or quality specification. It should be used in conjunction with technical sheets but do not replace them. Thus, the information only relates to the designated specific product and may not be applicable if such product is used in combination with other materials or in any other manufacturing process, unless otherwise specifically indicated. It does not release the user from ensuring he is in conformity with all regulations linked to its activity.