Safety Data Sheet
Parafast PG-1 EF LRF Canister Part 1

SECTION 1: Identification

1.1 GHS Product identifier

Product name	Parafast PG-1 EF LRF Canister Part 1

1.4 Supplier's details

Name	Siplast
Address	14911 Quorum Drive Suite 600 Dallas, TX 75254
Telephone	800-922-8800

1.5 Emergency phone number

800-424-9300 (CHEMTREC)

SECTION 2: Hazard identification

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Gases under pressure, compressed gas
- Sensitization, respiratory, Cat. 1
- Acute toxicity, inhalation, Cat. 4
- Carcinogenicity, Cat. 2
- Eye damage/irritation, Cat. 2A
- Skin corrosion/irritation, Cat. 2
- Sensitization, skin, Cat. 1
- Specific target organ toxicity (repeated exposure), Cat. 2
- Specific target organ toxicity (single exposure), Cat. 3
- Long-term hazards to the aquatic environment, Cat. 3

2.2 GHS label elements, including precautionary statements

Pictograms

Signal word **Danger**

Hazard statement(s)

H280	Contains gas under pressure; may explode if heated

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer.
H373	May cause damage to organs [CNS] through prolonged or repeated exposure.

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash thoroughly after handling.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P321	Specific treatment (see supplemental first aid instructions on this label).
P332+P313	If skin irritation occurs: Get medical advice/attention.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P342+P311	If experiencing respiratory symptoms: Call a POISON CENTER/doctor.
P362+P364	Take off contaminated clothing and wash it before reuse.
P363	Wash contaminated clothing before reuse.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.
P405	Store locked up.
P410+P403	Protect from sunlight. Store in a well-ventilated place.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

2.3 Other hazards which do not result in classification

The product is classified and labeled according to the Globally Harmonized System (GHS).

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Hazardous components

1. 4,4’ Diphenylmethanediisocyanate, isomere, homologe and mixtures (pMDI)

Concentration	50 - 100 % (weight)
EC no.	618-498-9
CAS no.	9016-87-9

- Acute toxicity, inhalation, Cat. 4

- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 2A
- Sensitization, respiratory, Cat. 1
- Sensitization, skin, Cat. 1
- Carcinogenicity, Cat. 2
- Specific target organ toxicity (single exposure), Cat. 3
- Specific target organ toxicity (repeated exposure), Cat. 2

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer [route]
H373	May cause damage to organs [organs] through prolonged or repeated exposure [route]
SCLs/M-factors/ATEs	STOT SE 3; : C ≥ 5 % Resp. Sens. 1; : C ≥ .1 % Eye Irrit. 2; : C ≥ 5 % Skin Irrit. 2; : C ≥ 5 %

2. 4,4'-Methylenediphenyl diisocyanate (MDI)

Concentration	25 - 50 % (weight)
EC no.	202-966-0
CAS no.	101-68-8

- Acute toxicity, inhalation, Cat. 4
- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 2A
- Sensitization, respiratory, Cat. 1
- Sensitization, skin, Cat. 1
- Carcinogenicity, Cat. 2
- Specific target organ toxicity (single exposure), Cat. 3
- Specific target organ toxicity (repeated exposure), Cat. 2

H315	Causes skin irritation
H317	May cause an allergic skin reaction
H319	Causes serious eye irritation
H332	Harmful if inhaled
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H335	May cause respiratory irritation
H336	May cause drowsiness or dizziness
H351	Suspected of causing cancer [route]
H373	May cause damage to organs [organs] through prolonged or repeated exposure [route]

3. Diphenylmethane Diisocyanate (MDI) Mixed Isomers

Concentration	2.5 - 10 % (weight)
EC no.	247-714-0
CAS no.	26447-40-5

- Skin corrosion/irritation, Cat. 2
- Eye damage/irritation, Cat. 2A
- Sensitization, skin, Cat. 1

- Acute toxicity, inhalation, Cat. 4
- Specific target organ toxicity (single exposure), Cat. 3
- Sensitization, respiratory, Cat. 1
- Carcinogenicity, Cat. 2
- Specific target organ toxicity (repeated exposure), Cat. 2

4. 1-Propene, 1-chloro-3,3,3-trifluoro-, (1E)-

Concentration	2.5 - 10 % (weight)
CAS no.	102687-65-0

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

If inhaled	Call a doctor immediately. Overexposure, remove to fresh air and seek medical attention.
In case of skin contact	Immediately wash with water and soap and rinse thoroughly.
In case of eye contact	Rinse opened eye for 20 minutes under running water. If eye becomes irritated, obtain medical treatment. Rinse opened eye for several minutes under running water. If symptoms persist, consult a doctor.
If swallowed	Rinse mouth with water. Seek medical treatment.

Personal protective equipment for first-aid responders
Protective clothing and respiratory protective device.

4.2 Most important symptoms/effects, acute and delayed
No further relevant information available.

4.3 Indication of immediate medical attention and special treatment needed, if necessary
No further relevant information available.

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media
CO_2, extinguishing powder or water spray. Fight larger fires with water spray.
CO_2, sand, extinguishing powder. Do not use water.

5.2 Specific hazards arising from the chemical
Avoid inhalation of material or combustion by-products.

5.3 Special protective actions for fire-fighters
Firefighters use standard protective equipment including flame retardant coat, helmet with face shield, gloves, rubber boots, and in enclosed spaces, SCBA.

Further information
For safety reasons unsuitable extinguishing agents:
Water
Water and water with full jet

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures
Wear protective equipment. Keep unprotected persons away.
Ensure adequate ventilation

6.2 Environmental precautions
Inform respective authorities in case of seepage into water course or sewage system.
Do not allow to enter sewers/ surface or ground water.

6.3 Methods and materials for containment and cleaning up
Dispose of contaminated material as waste in accordance with federal state and local regulations.
Ensure adequate ventilation.
Do not flush with water or aqueous cleansing agents

Reference to other sections
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

7.1 Precautions for safe handling
Open and handle receptacle with care.

· Information about protection against explosions and fires:
Do not spray on a naked flame or any incandescent material.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.
Pressurized container: protect from sunlight and do not expose to temperatures exceeding 50°C, i.e. electric lights. Do not pierce or burn, even after use.

7.2 Conditions for safe storage, including any incompatibilities
· Requirements to be met by storerooms and receptacles:
Empty containers may contain hazardous residuals. Keep away from heat, sparks and open flame. DO NOT cut, drill, puncture, weld or grind on or near full, partially full or empty product containers.
Store in a cool location away from direct heat.
Observe official regulations on storing packagings with pressurized containers.

· Information about storage in one common storage facility:
Keep away from open flames and high temperatures.
Store away from oxidizing agents.

· Further information about storage conditions:
Keep away from heat, spark and flame.
Keep receptacle tightly sealed.
Store in cool, dry conditions in well sealed receptacles.
Protect from heat and direct sunlight.

Specific end use(s)
No further relevant information available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

1. 4,4'-Methylenediphenyl diisocyanate (MDI) (CAS: 101-68-8)
PEL (Inhalation): (C) 0.02 ppm (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): (C) 0.2 mg/m3 (OSHA)
OSHA Annotated Table Z-1, www.osha.gov

PEL (Inhalation): 0.005 ppm (Cal/OSHA)
OSHA Annotated Table Z-1, www.osha.gov

REL (Inhalation): 0.05 mg/m3, (C) 0.2 mg/m3 [10-min] (NIOSH)
OSHA Annotated Table Z-1, www.osha.gov

TLV® (Inhalation): 0.005 ppm (ACGIH)
Respiratory sensitizer

TWA (Inhalation): See Isocyanates, all ppm; Australia (AU/SWA)
Advisory carc cat: Carc. 2; Other advisory: Sen

2. Diphenylmethane Diisocyanate (MDI) Mixed Isomers (CAS: 26447-40-5 EC: 247-714-0)
PEL-TWA (Inhalation): 0.005 ppm; 0.051 mg/m3 (OSHA)

TLV® (Inhalation): 0.005 ppm; 0.051 mg/m3 (OSHA)
respiratory sensitizer

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

Pictograms

Eye/face protection
Safety glasses with side shields.

Skin protection
· Protection of hands:
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Due to missing tests no recommendation to the glove material can be given for the product/ the preparation/ the chemical mixture.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· Material of gloves
Nitrile rubber, NBR
The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

· Penetration time of glove material
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

Body protection
Protective work clothing

Respiratory protection
Use approved respiratory protection equipment when airborne exposure is excessive. Consult the respirator manufacturer to determine the appropriate type of equipment for a given application. Observe respirator use limitations specified by the manufacturer.

SECTION 9: Physical and chemical properties

Basic physical and chemical properties

Appearance	Aerosol
Color	Amber colored
Odor	Aromatic
Odor threshold	Not determined
Melting point/freezing point	Undetermined
Boiling point or initial boiling point and boiling range	Undetermined
Flammability	Not determined
Lower and upper explosion limit/flammability limit	No data available.
Flash point	Not applicable
Explosive properties	Not determined
Auto-ignition temperature	250°C (500°F) - This product is not selfigniting
Decomposition temperature	Not determined
Oxidizing properties	No data available.
pH	No data available.
Kinematic viscosity	Not determined
Solubility	Reacts slowly with water
Partition coefficient n-octanol/water (log value)	No data available.
Vapor pressure	Not determined
Evaporation rate	Not applicable
Density and/or relative density	1.23 g/cm^3 (10.26435 lbs/gal) at 20°C (68°F)
Relative vapor density	No data available.

Particle characteristics
No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
VOC (Per EPA 24): < 50g/L

SECTION 10: Stability and reactivity

10.1 Reactivity
Stable under recommended storage conditions.

10.3 Possibility of hazardous reactions
MDI reacts slowly with water to form Carbon Dioxide gas. The gas can cause sealed containers to expand and possibly rupture.

10.4 Conditions to avoid
Contact with moisture, other materials that react with isocyanates, or temperatures above 350°F (177°C), may cause polymerization.
Avoid heat, flames, sparks.

10.5 Incompatible materials
Reacts with oxidizing agents.
Water reactive, keep away from contact with water.

10.6 Hazardous decomposition products

Carbon dioxide
Hydrocarbons

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
· LD/LC50 values that are relevant for classification:
110-82-7 cyclohexane
Oral LD50 12,705 mg/kg (rat)

Skin corrosion/irritation
Skin irritant.
Irritant to skin and mucous membranes.

Serious eye damage/irritation
Causes serious eye irritation.
Vapors may be irritating to the eyes.
Irritating effect.

Respiratory or skin sensitization
Skin Contact - May cause allergic skin reaction.
Inhalation - Sensitization possible through inhalation.
Skin Contact - Sensitization possible through skin contact.

Carcinogenicity
IARC (International Agency for Research on Cancer)
9016-87-9 diphenylmethanediisocyanate,isomeres and homologues{polymer exempt) - 3
101-68-8 4,4'-methylenediphenyl diisocyanate (MDI) - 3

NTP: None of the ingredients is listed.

OSHA: None of the ingredients is listed.

Additional information
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

SECTION 12: Ecological information

Toxicity
No further relevant information available.

Persistence and degradability
No further relevant information available.

Bioaccumulative potential
No further relevant information available.

Mobility in soil
No further relevant information available.

Results of PBT and vPvB assessment

Not applicable.

Endocrine disrupting properties
Do not allow undiluted product or large quantities of it to reach ground water, water course or sewage system.
Toxic for aquatic organisms
Water hazard class 2 (Self-assessment): hazardous for water

Other adverse effects
No further relevant information available.

SECTION 13: Disposal considerations

Disposal methods

Packaging disposal
Disposal must be made according to official regulations.

Waste treatment
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
Must be specially treated adhering to official regulations.
Disposal must be made according to official regulations.

SECTION 14: Transport information

DOT (US)
UN Number: UN3500
Class: 2.2
Packing Group: Not regulated
Proper Shipping Name: Chemical under pressure, n.o.s. (trans-1-Chloro-3,3,3-trifluoropropene)
Reportable quantity (RQ):
Marine pollutant: Yes

IMDG
UN Number: UN3500
Class: 2.2
Packing Group: Not regulated
Proper Shipping Name: CHEMICAL UNDER PRESSURE, N.O.S. (trans-1-Chloro-3,3,3-trifluoropropene)

IATA
UN Number: UN3500
Class: 2.2
Packing Group: Not regulated
Proper Shipping Name: CHEMICAL UNDER PRESSURE, N.O.S.

SECTION 15: Regulatory information

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

Canadian Domestic Substances List (DSL)
Chemical name: Isocyanic acid, polymethylenepolyphenylene ester
CAS: 9016-87-9

New Jersey Right To Know Components
Common name: METHYLENE DIPHENYL DIISOCYANATE (POLYMERIC)
CAS number: 9016-87-9

Massachusetts Right To Know Components
Chemical name: Polymeric diphenylmethane diisocyanate
CAS number: 9016-87-9

Canadian Domestic Substances List (DSL)
Chemical name: Benzene, 1,1'-methylenebis[4-isocyanato-
CAS: 101-68-8

Pennsylvania Right To Know Components
Chemical name: Benzene, 1,1'-methylenebis[4-isocyanato-
CAS number: 101-68-8

New Jersey Right To Know Components
Common name: METHYLENE BISPHENYL ISOCYANATE
CAS number: 101-68-8

Massachusetts Right To Know Components
Chemical name: MDI
CAS number: 101-68-8

Canadian Domestic Substances List (DSL)
Chemical name: Trans-1-chloro-3,3,3-trifluoropropene
CAS: 102687-65-0

HMIS Rating

Parafast PG-1 EF LRF Canister Part 1	
HEALTH	* 2
FLAMMABILITY	0
PHYSICAL HAZARD	0
PERSONAL PROTECTION	

NFPA Rating

SECTION 16: Other information

16.1 Further information/disclaimer
Although the information and recommendations set forth in this SDS are presented in good faith and are believed to be correct as of the date of this SDS, Siplast makes no representations as to the ompleteness or accuracy thereof. Information is supplied on the condition that the persons receiving and using it will make their own determination as to the suitability for their purpose prior to use. In no event will Siplast or any affiliate thereof be responsible for damages of any nature whatsoever resulting from the use or reliance on the information set forth in the SDS.