

PVDF (Polyvinylidene Fluoride Homopolymer) Gujarat Fluorochemicals Ltd.

Revision Number:02

Creation Date: 26/05/2023

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1. IDENTIFICATION

Product Name	PVDF(Polyvinylidene Fluoride:poly(1,1-difluoroethane))
Synonyms	Inoflar™ 1005, Inoflar™ 1011, Inoflar™ 1017, Inoflar™ 1020, Inoflar™ 1125, Inoflar™ 1135, Inoflar™ 1150, Inoflar™ 5125, Inoflar™ 3160
Recommended Use	Resin for molding and/or extrusion, membrane, coating
Uses Advised Against	No information available

Details of the Supplier of the Safety Data Sheet

Company	Gujrat Fluorochemicals Ltd.
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2. Hazard(s) Identification

GHS classification in accordance with 29 CFR 1910.1200

Classification under 2012 OSHA Hazard Communication Standard (29 CFR 1910.1200)	None required
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Based on available data, the classification criteria are not met.

GHS Label elements	None required
Hazards not otherwise classified (HNOC)	None required

3. Composition/information on Ingredients

Chemical name	CAS-No	Weight %
1,1-Difluoroethylene polymer	24937-79-9	<=100

4. First aid measures

Eye contact	Hold eye open and rinse slowly and gently with water for 15 – 20 minutes. If irritation still persists, get medical attention.
Skin contact	Wash skin with soap and water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention immediately if symptoms occur immediately.
Ingestion	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur.
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. If breathing is difficult, give oxygen. If signs/symptoms continue, get medical attention.

Most Important Symptoms and Effects, Both Acute and Delayed

Most Important Symptoms and Effects	The most important known symptoms and effects are described in labelling (See section 2) and/or in section 11.
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Indication of immediate medical attention and special treatment needed

Notes to physician	Treat symptomatically and supportively.
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5. Fire-fighting measures

Extinguishing media

Suitable extinguishing media	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	None Known.

Special hazards arising from the substance or mixture

Special Hazard	Thermal decomposition can lead to release of toxic/irritating gases and vapor.
Hazardous combustion products	Carbon Monoxide (CO), Carbon dioxide (CO ₂), Hydrogen fluoride

Protective equipment and precautions for firefighters

As in any fire, wear self-contained breathing apparatus pressure-demand (SCBA), MSHA/NIOSH (approved or equivalent) and full protective gear. Keep storage containers cool with water spray. Move container from fire area if it can be done without risk. Cool containers with water spray until well after the fire is out. Do not scatter spilled material with high-pressure water streams. Stay away from the ends of tanks. Apply water from a protected location or from a safe distance. Avoid inhalation of material or combustion by-products.

NFPA Ratings

Health 0	Flammability 1	Instability 0	Physical/Hazard N/A
Hazard Scale: 0=Minimal	1=Slight	2=Moderate	3=Serious 4=Severe

6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

Personal Precautions	Wear personal protective clothing and equipment, see Section 8. Avoid dust formation. Avoid contact with skin, eyes and clothing. Keep unprotected persons away. Do not eat, drink or smoke while using this product. Use respiratory protective device against the effects of fumes/dust/aerosol. Transfer to a disposal or recovery container. Avoid release to the environment.
Environmental precautions	Prevent from reaching lakes, streams, ponds and sewer drains. Sweep up and shovel into suitable container. Local authorities should be advised if significant spillages cannot be contained.

Methods and material for containment and cleaning up

Methods for containment	Sweep up or vacuum up spillage and collect in suitable container for disposal. Place in a suitable, labelled container for waste disposal. Keep in suitable, closed containers for disposal. Wash area and prevent runoff into drains. Local authorities should be advised if significant spillages cannot be contained.
Reference to other sections	Refer to Section 8 - Exposure Controls/Personal Protection and Section 13 - Disposal Considerations.

7. Handling and Storage

Precautions for safe handling

Handling	Wear suitable personal Protective Equipment when handling and spraying. Avoid contact with skin and eyes. Minimize dry sweeping to avoid generation of dust clouds. Minimize airborne dust and eliminate all ignition sources. Do not breathe dust/fumes/gas/mist/Vapours/spray. Ensure adequate ventilation. While using do not eat drink or smoke. Wash hands thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, using toilet or applying cosmetics. Empty containers may contain hazardous residues. Handle in accordance with good industrial hygiene and safety practice.
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Conditions for safe storage, including any incompatibilities

Storage	Store in original container. Keep containers tightly closed in a cool, well-ventilated place. Store locked up. Do not store material near food, feed or drinking water. Keep away from heat and sources of ignition. Store away from incompatible material.
Incompatible materials	Strong oxidizing agents


8. Exposure Controls/Personal Protection

Exposure Guidelines

This product does not contain any hazardous materials with occupational exposure limits established by the region-specific regulatory bodies.

Component	CAS Number	ACGIH	OSHA PEL	NIOSH IDLH
1,1-Difluoroethylene polymer	24937-79-9	-	-	-
Legend	ACGIH - American Conference of Governmental Industrial Hygienists OSHA - Occupational Safety and Health Administration NIOSH IDLH: The National Institute for Occupational Safety and Health Immediately Dangerous to Life or Health TEEL: Temporary Emergency Exposure Limits			

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Engineering controls	Ensure adequate ventilation, especially in confined areas. If applicable, use process enclosures, local exhaust ventilation, or other engineering controls to maintain airborne levels below recommended exposure limits. Try to minimize airborne dust. If exposure limits have not been established, maintain airborne levels to an acceptable level.
Personal protective equipment	
Eye/Face Protection	Wear appropriate protective eyeglasses or chemical safety goggles as described by OSHA's eye and face protection regulations in 29 CFR 1910.133 or European Standard EN166.
Skin and body protection	Wear impervious protective clothing, including boots, gloves, apron or coveralls, as appropriate, to prevent skin exposure. Suitable glove material: Nitrile rubber Neoprene Natural rubber PVC
Respiratory protection	General and local exhaust ventilation is recommended to maintain vapor exposures below recommended limits. Where concentrations are above recommended limits or are appropriate respiratory protection should be worn. Follow OSHA respirator regulations (29 CFR 1910.134) and use NIOSH/MSHA approved respirators. Protection provided by air purifying respirators against exposure to any hazardous chemical is limited. Use approved positive flow mask if significant quantities of dust become airborne. Use a positive pressure air supplied respirator if there is any potential for uncontrolled release, exposure levels are unknown, or any other circumstance where air purifying respirators may not provide adequate protection.
Hygiene Measure	Do not eat, drink or smoke when using this product. Keep away from food, drink and animal feeding stuffs. Wash hands before breaks and immediately after handling the product. Remove and wash contaminated clothing before re-use. Handle in accordance with good industrial hygiene and safety practice.

Protezione respiratoria

Filtro antiparticolato di capacità sufficiente. (AS / NZS 1716 e 1715, EN 143:2000 e 149:001, Z88 ANSI o equivalente nazionale)

Fattori di protezione	Respiratore a mezza faccia	Respiratore a faccia piena	Respirator ad Aria potenziato
10 x ES	P1 Air-line*	-	PAPR-P1
50 x ES	Air-line**	P2	PAPR-P2
100 x ES	-	P3	-
		Air-line*	
100+ x ES	-	Air-line* *	PAPR-P3

9. Physical and Chemical Properties**Information on basic physical and chemical properties**

Appearance	Solid
Physical state	Solid
Odor	Odorless
Color	No information available
Odor threshold	No information available

Property	VALUES	Remarks/ Method
Ph	No information available	
Melting point/freezing point	155 – 170 °C	
Boiling Point/Range	No information available	
Flash Point	Not Applicable	
flammability (solid, gas) Flammability or Explosive limit	No information available	
Upper	No information available	
Lower	No information available	
Relative density (Water = 1)	No information available	
Vapor density (Air = 1)	No information available	
Vapor pressure	No information available	
Water solubility	Insoluble	
Solubility in Other Solvents	No information available	
Partition coefficient: n-octanol/water	No information available	

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Autoignition temperature	No information available	
decomposition temperature	No information available	
Viscosity	Not Applicable	
Oxidizing properties	No information available	
Explosive properties	No information available	
Volatile component	No information available	
OTHER INFORMATION		
Surface tension	No information available	
Molecular Formula	(-CH ₂ CF ₂ -)	

10. Stability and Reactivity

Reactivity	None known, based on available information
Chemical stability	Stable under recommended storage conditions. See Section (7)
Possibility of hazardous reaction	
Conditions to avoid	Extremes of temperature and direct sunlight.
Incompatible Materials	Strong oxidizing agents
Hazardous decomposition products	Thermal decomposition can lead to release of toxic/irritating gases and vapors. Keep product and empty container away from heat and sources of ignition. Hazardous decomposition products formed under fire conditions: Hydrogen fluoride, Carbon monoxide (CO), Carbon dioxide (CO ₂)

11. Toxicological Information**Information on Toxicological Effects****Component Toxicity**

Component	CAS number	LD50 – Oral	LD50 – Dermal	LC50 - Inhalation
1,1-Difluoroethylene polymer	24937-79-9	No data available	No data available	No data available

Product Information

Oral LD 50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg
Dermal LD 50	Based on ATE data, the classification criteria are not met. ATE > 2000 mg/kg
Inhalation LD 50	Based on ATE data, the classification criteria are not met. ATE > 5 mg/l

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

Irritation	No data available				
Sensitization	No data available				
Carcinogenicity	Component	CAS number	IARC	NTP	OSHA
	1,1-Difluoroethylene polymer	24937-79-9	Not Listed	Not Listed	Not Listed
Mutagenic effect	No data available				
Developmental effect	No data available				
Tetragonality	No data available				
STOT - Single Exposure	No data available				
STOT - repeated exposure	No data available				
Aspiration hazard	No data available				
Endocrine Disruptor Information	No data available				
Other adverse effect	The toxicological properties have not been fully investigated.				

PVDF (Polyvinylidene Fluoride Homopolymer)
Gujarat Fluorochemicals Ltd.**12. Ecological Information****Ecotoxicity**

No data available.

Component	CAS number	LC50 – Fish	EC50 – Daphnia	EC50-Alga
1,1-Difluoroethylene polymer	24937-79-9	No data available	No data available	No data available

Persistence and Degradability	No information available
Bioaccumulative Potential	No information available
Mobility in soil	Spillage unlikely to penetrate in soil. The product is insoluble and sinks in water is not likely mobile in the environment due to low water solubility
Other Adverse Effects	No information available.

13. Disposal Considerations**Waste Treatment Methods**

Waste Disposal Method	Chemical waste generators must determine whether a discarded chemical is classified as a hazardous waste. Chemical waste generators must also consult local, regional, and national hazardous waste regulations to ensure complete and accurate classification.
Contaminated packaging	Empty remaining contents. Dispose of in accordance with local regulations. Do not re-use Empty containers.

14. Transport Information

DOT (US)	Not regulated as dangerous goods
IMDG/IMO	Not regulated as dangerous goods
IATA/ICAO	Not regulated as dangerous goods

15. Regulatory Information**Safety, health and environmental regulations / legislation specific for the substance or mixture****U.S. Federal Regulations**

Ingrediente	Numero CAS	TSCA	TSCA Inventory notification – Active/Inactive	TSCA- EPA Regulatory Flags
1,1-Difluoroethylene polymer	24937-79-9	Listed	Active	XU

Legend TSCA – Toxic Substances Control Act, (40 CFR Part 710)
XU - Indicates a substance exempt from reporting under the Inventory Update Rule, i.e. Partial Updating of the TSCA Inventory Data Base Production and Site Reports (40 CFR 710(B))

SARA 311/312 Hazard Categories	Status
Acute Health Hazard	No
Chronic Health Hazard	No
Fire Hazard	No
Sudden Release of Pressure Hazard	No
Reactive Hazard	No
CERCLA Reportable Quantity	This material does not contain any components with a CERCLA RQ
SARA 302 Extremely Hazardous Substances Threshold Planning Quantity	This material does not contain any components with a section 302 EHS TPQ.
SARA 304 Extremely Hazardous Substances Reportable Quantity	This material does not contain any components with a section 304 EHS TPQ.
SARA 313	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.
CLEAN WATER ACT (CWC)	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)

PVDF (Polyvinylidene Fluoride Homopolymer)
23.06.17 Kimyasalların Kaydı, Değerlendirilmesi, İzni ve
Kısıtlanması Hakkında Yönetmelik (RG 30105 Mükerrer)
hükümlerine uygun olarak hazırlanmıştır.

State Regulations

California Proposition 65	This product does not contain any Proposition 65 chemicals.
U.S. State Right-to-Know Regulations	This product does not contain any substances regulated by state right-to-know regulations

International Inventories

TSCA	Y
EINECS/ELINCS	N
DSL	Y
NDSL	N
PICCS	Y
ENCS	Y
IENCS	Y
AICS	Y
KECL	Y

Legend

Y : All ingredients are on the inventory
N : Not determined or one or more ingredients are not on the inventory and are not exempt from listing.
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Chemical Substances/European List of Notified Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
ENCS - Japan Existing and New Chemical Substances IECSC - China Inventory of Existing Chemical Substances
AICS - Australian Inventory of Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances

16. Other Information

Data di revisione	08-August-2021
Revision date	08-August- 2021
Revision Summary	01

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.