Safety Data Sheet
acc. to OSHA HCS

Printing date 07/24/2023 Version No: 2.00 Reviewed on 11/01/2025

1 Identification

Product identifier Fluonox® Terpolymer Cure Incorporated VB

Trade name: KB3402, KB4303, KB4603, KB4602, KB4403, KB4453, KB4605, KB4302, KB4451, KB4301, KB4601, KB5452

Recommended use: Manufacture of rubber products

Restrictions on use: No further relevant information available.

Details of the supplier of the safety data sheet

Manufacturer/Supplier:
Gujarat Fluorochemicals Limited
12/A Dahej, GIDC, Industrial Estate
Dahej, Gujarat 392130, India
Telephone : +91-2641-618031(Admin)/ 618086-87(Security)
Email : inoflon@gfl.co.in, contact@gfl.co.in

Emergency telephone number:
Emergency Telephone Number: +91-2643-618081 (SHE) / 618086-87(Security)

2 Hazard(s) identification

Classification of the substance or mixture

Eye Irritation 2A	H319 Causes serious eye irritation.
Toxic to Reproduction 1B	H360 May damage fertility or the unborn child. Route of exposure: Oral.
Specific Target Organ Toxicity - Repeated Exposure 2	H373 May cause damage to the prostate and the seminal vesicles through prolonged or repeated exposure.

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

Hazard pictograms

Signal word Danger

Hazard-determining components of labeling:
4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol
Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)
Hazard statements
H319 Causes serious eye irritation.
H360 May damage fertility or the unborn child. Route of exposure: Oral.
H373 May cause damage to the prostate and the seminal vesicles through prolonged or repeated exposure.
Precautionary statements

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.
P264	Wash thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
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.
P314	Get medical advice/attention if you feel unwell.

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P337+P313	If eye irritation persists: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container in accordance with local/regional/national/international regulations.

Other hazards
Results of PBT and vPvB assessment
PBT: Not determined.
vPvB: Not determined.

3 Composition/information on ingredients

Chemical characterization: Mixtures

Description:		
CAS: 25190-89-0	Vinylidene fluoride/ hexafluoropropene /tetrafluoroethylene	>96.5%
Dangerous components:		
CAS: 1478-61-1	4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	<1.8%
CAS: 75768-65-9	Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)	<1.3%
CAS: 1100-88-5	benzyltriphenylphosphonium chloride	<0.6%

4 First-aid measures

Description of first aid measures
General information:
Take affected persons out of danger area and lay down.
In case of irregular breathing or respiratory arrest provide artificial respiration.
After inhalation: Supply fresh air.
After skin contact: Immediately rinse with water.
After eye contact:
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
Seek medical treatment.
After swallowing: Rinse out mouth and then drink plenty of water.
Information for doctor:
Most important symptoms and effects, both acute and delayed
No further relevant information available.
Indication of any immediate medical attention and special treatment needed
No further relevant information available.

5 Fire-fighting measures

Extinguishing media
Suitable extinguishing agents:
CO_2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
Use fire fighting measures that suit the environment.
For safety reasons unsuitable extinguishing agents: Water with full jet
Special hazards arising from the substance or mixture
Formation of toxic gases is possible during heating or in case of fire.
In case of fire, the following can be released:
Carbon monoxide
Carbon dioxide
Phosphorus compounds

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Advice for firefighters
Protective equipment: Wear self-contained respiratory protective device.
Additional information
Cool endangered receptacles with water spray.
Collect contaminated fire fighting water separately. It must not enter the sewage system.

6 Accidental release measures

Personal precautions, protective equipment and emergency procedures
Ensure adequate ventilation.
Wear protective clothing.
Avoid formation of dust.
Keep away from ignition sources.
Environmental precautions: Do not allow to enter sewers/ surface or ground water.
Methods and material for containment and cleaning up:
Pick up mechanically.
Dispose of the collected material according to regulations.
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.

7 Handling and storage

Handling:
Precautions for safe handling
Prevent formation of dust.
Any deposit of dust which cannot be avoided must be regularly removed.
Ensure good ventilation/exhaustion at the workplace.
Information about protection against explosions and fires:
Dust can combine with air to form an explosive mixture.
Keep ignition sources away - Do not smoke.
Protect against electrostatic charges.

Conditions for safe storage, including any incompatibilities
Storage:
Requirements to be met by storerooms and receptacles: Store only in the original receptacle.
Information about storage in one common storage facility: Store away from oxidizing agents.
Further information about storage conditions: Store in cool, dry conditions in well sealed receptacles.

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

8 Exposure controls/personal protection

Additional information about design of technical systems: No further data; see section 7.

Control parameters
Components with limit values that require monitoring at the workplace:
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.

Exposure controls
Personal protective equipment:
General protective and hygienic measures:
Do not eat, drink, smoke or sniff while working.
Keep away from foodstuffs, beverages and feed.
Immediately remove all soiled and contaminated clothing.

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Store protective clothing separately.
Avoid contact with the eyes and skin.
The usual precautionary measures for handling chemicals should be followed.

Breathing equipment:
In case of brief exposure or low pollution use respiratory filter device. In case of intensive or longer exposure use respiratory protective device that is independent of circulating air.

Protection of hands:


Protective gloves

Only use chemical-protective gloves with CE-labeling of category III.
The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

Material of gloves
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.

Eye protection:


Safety glasses

Body protection:


Protective work clothing


Boots

Limitation and supervision of exposure into the environment No further relevant information available.

9 Physical and chemical properties

Information on basic physical and chemical properties
General Information
Appearance:

Form:	Solid
Color:	White
Odor:	Characteristic
Odor threshold:	Not determined.
pH-value:	Not applicable.
Change in condition	
Melting point/Melting range:	Not determined.
Boiling point/Boiling range:	Not applicable.

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Flash point: Not applicable.

Flammability (solid, gaseous): Not determined.

Auto igniting: Not determined.

Decomposition temperature: Not determined.

Danger of explosion: Product does not present an explosion hazard.

Explosion limits:
Lower: Not applicable.
Upper: Not applicable.

Oxidizing properties No

Vapor pressure: Not applicable.

Density: Not determined.
Relative density Not determined.
Vapor density Not applicable.
Evaporation rate Not applicable.

Solubility in / Miscibility with
Water: Insoluble.

Partition coefficient (n-octanol/water):

1478-61-1	4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]diphenol	2,79 log Pow (20 °C, EU Method A.8)
75768-65-9	Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] bis[phenol] (1:1)	2,28 log Pow (20 °C, HPLC)
1100-88-5	benzyltriphenylphosphonium chloride	-0,7 log Pow (20 °C, OECD Guideline 107)

Viscosity:
Dynamic: Not applicable.
Kinematic: Not applicable.

Other information No further relevant information available.

10 Stability and reactivity

Reactivity No further relevant information available.
Chemical stability No decomposition if used and stored according to specifications.
Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.
Possibility of hazardous reactions No dangerous reactions known.
Conditions to avoid No further relevant information available.
Incompatible materials: No further relevant information available.
Hazardous decomposition products: No dangerous decomposition products known.

11 Toxicological information

Information on toxicological effects
Acute toxicity: Based on available data, the classification criteria are not met.

LD/LC50 values that are relevant for classification:		
CAS: 1478-61-1 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol		
Oral	LD50	> 2000 mg/kg (Rat) (OECD Guideline 423)
Dermal	LD50	> 2000 mg/kg (Rat) (OECD Guideline 402)

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CAS: 75768-65-9 Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]bis[phenol] (1:1)		
Oral	LD50	> 2000 mg/kg (Rat) (OECD Guideline 425)
CAS: 1100-88-5 benzyltriphenylphosphonium chloride		
Oral	LD50	43 mg/kg (Rat) (Federal Hazardous substances Act)
Inhalative	LC50 (4h)	≥ 80 - ≤ 200 mg/L (Rat) (inhalation: dust)

Primary irritant effect:
on the skin: Based on available data, the classification criteria are not met.
on the eye: Causes serious eye irritation.
Sensitization: Based on available data, the classification criteria are not met.
Additional toxicological information:
The product shows the following dangers according to internally approved calculation methods for preparations:
Harmful
Irritant

Carcinogenic categories

IARC (International Agency for Research on Cancer)
None of the ingredients is listed.
NTP (National Toxicology Program)
None of the ingredients is listed.
OSHA-Ca (Occupational Safety & Health Administration)
None of the ingredients is listed.

12 Ecological information

Toxicity

Aquatic toxicity:	
CAS: 1478-61-1 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol	
EC50 (48h) (static)	2.7 mg/L (Daphnia) (OECD Guideline 202, Daphnia magna)
	2.5 mg/L (Fish) (ISO 15088, Danio rerio)
EC50 (3h) (static)	126.8 mg/L (Bacteria) (OECD Guideline 209, activated sludge) nominal
EC50 (72h) (static)	> 0.808 mg/L (Algae) (OECD Guideline 201, Pseudokirchneriella subcapitata)
NOEC (21d) (static)	0.23 mg/L (Daphnia) (OECD Guideline 211, Daphnia magna) semi-static
NOEC (static)	> 0.125 mg/L (Fish) (OECD 234; Danio rerio) semi-static, 120d
CAS: 75768-65-9 Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]bis[phenol] (1:1)	
LC50 (48h) (static)	0.79 mg/L (Daphnia) (OECD Guideline 202, Daphnia magna)
LC50 (96h) (static)	1.2 mg/L (Fish) (OECD Guideline 203, Pimephales promelas) nominal
ErC50 (72h) (static)	0.45 mg/L (Algae) (OECD Guideline 201, Pseudokirchneriella subcapitata)
EC50 (72h) (static)	0.087 mg/L (Algae) (OECD Guideline 201, Pseudokirchneriella subcapitata)
CAS: 1100-88-5 benzyltriphenylphosphonium chloride	
EC50 (48h) (static)	1 mg/L (Daphnia) (OECD Guideline 202, Daphnia magna) nominal

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EC50 (72h) (static)	0.23 mg/L (Algae) (OECD Guideline 201, Pseudokirchneriella subcapitata) nominal
NOEC (72h) (static)	0.1 mg/L (Algae) (OECD Guideline 201, Pseudokirchneriella subcapitata) nominal

Persistence and degradability		
1478-61-1	4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]diphenol	0 % (28 d, OECD Guideline 301 B)
75768-65-9	Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] bis[phenol] (1:1)	0 % (28 d, OECD Guideline 301 B)
1100-88-5	benzyltriphenylphosphonium chloride	0 % (28 d, OECD Guideline 301 D)

Behavior in environmental systems:

Bioaccumulative potential		
1478-61-1	4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]diphenol	5,2 - 9,8 BCF (OECD Guideline 305)

Mobility in soil		
1478-61-1	4,4'-[2,2,2-trifluoro-1-(trifluoromethyl) ethylidene]diphenol	3,36 log Koc (25 °C, pH 6,88, EU Method C.19)
75768-65-9	Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene] bis[phenol] (1:1)	3,86 - 5,63 log Koc (20 °C, OECD Guideline 121)

Other adverse effects No further relevant information available.

13 Disposal considerations

Waste treatment methods
Recommendation: Must be specially treated adhering to official regulations.

Uncleaned packagings
Recommendation: Disposal must be made according to official regulations.

14 Transport information

UN-Number
DOT Void
ADR/RID/ADN, IMDG, IATA UN3077
UN proper shipping name

DOT Void

ADR/RID/ADN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (benzyltriphenylphosphonium chloride, 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]diphenol)

IMDG ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (benzyltriphenylphosphonium chloride, Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1)), MARINE POLLUTANT

IATA ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (benzyltriphenylphosphonium chloride, Benzyltriphenylphosphonium, salt with 4,4'-[2,2,2-trifluoro-1-(trifluoromethyl)ethylidene]bis[phenol] (1:1))

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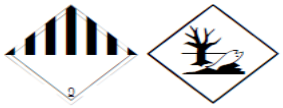
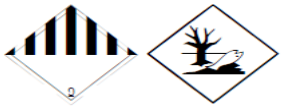
Transport hazard class(es)

DO



Class	Void

ADR/RID/ADN, IMDG, IATA



Class	9 Miscellaneous dangerous substances and articles
Label	9
Packing group	
DOT	Void
ADR/RID/ADN, IMDG, IATA	III
Environmental hazards:	
Marine pollutant:	Yes (DOT) Symbol (fish and tree)
Special marking (ADR/RID/ADN):	Symbol (fish and tree)
Special marking (IATA):	Symbol (fish and tree)
Special precautions for user	Warning: Miscellaneous dangerous substances and articles
Hazard identification number (Kemler code):	90
EMS Number:	F-A,S-F
Stowage Category	A
Stowage Code	SW23 When transported in BK3 bulk container, see 7.6 2.12 and 7.7.3.9.
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code:	Not applicable.

Transport/Additional information:

DOT

Remarks:	Special marking with the symbol (fish and tree).
UN "Model Regulation":	UN 3077 ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (BENZYLTRIPHENYLPHOSPHONIUM CHLORIDE, 4,4'-[2,2,2-TRIFLUORO-1-(TRIFLUOROMETHYL) ETHYLIDENE]DIPHENOL), 9, III

15 Regulatory information

EPCRA section 313

This product contains the following EPCRA section 313 chemical subject to the reporting requirements of section 313 of Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).
Due to the non-availability of reference standards, testing for all TRI listed PFAS substances in this product is not possible. At present, we test 19 specific PFAS compounds from the list with a Limit of Quantification (LOQ) of 25 parts per billion (ppb) for individual substances. Out of the 19 PFAS compounds tested, following substances were detected below the specified concentration.

CAS No.	Chemical Name	Concentration

No entry in above table indicates no substances were detected above the LOQ of 25 ppb.

Safety, health and environmental regulations/legislation specific for the substance or mixture
SARA

Section 355 (extremely hazardous substances):
None of the ingredients is listed.
Section 313 (Specific toxic chemical listings):
None of the ingredients is listed.
TSCA (Toxic Substances Control Act) Inventory:
All components have the value ACTIVE.

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Hazardous Air Pollutants
None of the ingredients is listed.

Proposition 65

Chemicals known to cause cancer:
None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for females:
None of the ingredients is listed.
Chemicals known to cause reproductive toxicity for males:
None of the ingredients is listed.
Chemicals known to cause developmental toxicity:
None of the ingredients is listed.
New Jersey Right-to-Know List:
None of the ingredients is listed.
New Jersey Special Hazardous Substance List:
None of the ingredients is listed.
Pennsylvania Right-to-Know List:
None of the ingredients is listed.
Pennsylvania Special Hazardous Substance List:
None of the ingredients is listed.

Carcinogenicity categories

EPA (Environmental Protection Agency)
None of the ingredients is listed.
TLV (Threshold Limit Value)
None of the ingredients is listed.
NIOSH-Ca (National Institute for Occupational Safety and Health)
None of the ingredients is listed.

Chemical Inventories:
Australia - AICS
Canada - DSL
China - IECSC
EU - EINECS
Korea - ECL
New Zealand - NZIoC
Philippines - PICCS
USA - TSCA
Taiwan - TCSI

16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

Contact:

Date of preparation / last revision 07/04/2023

Abbreviations and acronyms:
REACH: Registration, Evaluation, Authorisation and Restriction of Chemicals
MARPOL: (from Marine Pollutant) International Convention for the Prevention of Marine Pollution from Ships
IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk
UN: United Nations (also UNO: United Nations Organization)

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NOEC: No Observed Effect Concentration
OECD: Organisation for Economic Co-operation and Development
ASTM: American Society for Testing and Materials
WAF: Water Accommodated Fraction
ADR: Accord relatif au transport international des marchandises dangereuses par route (European Agreement Concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
Eye Irritation 2A: Serious eye damage/eye irritation – Category 2A
Toxic to Reproduction 1B: Reproductive toxicity – Category 1B
Specific Target Organ Toxicity - Repeated Exposure 2: Specific target organ toxicity (repeated exposure) – Category 2