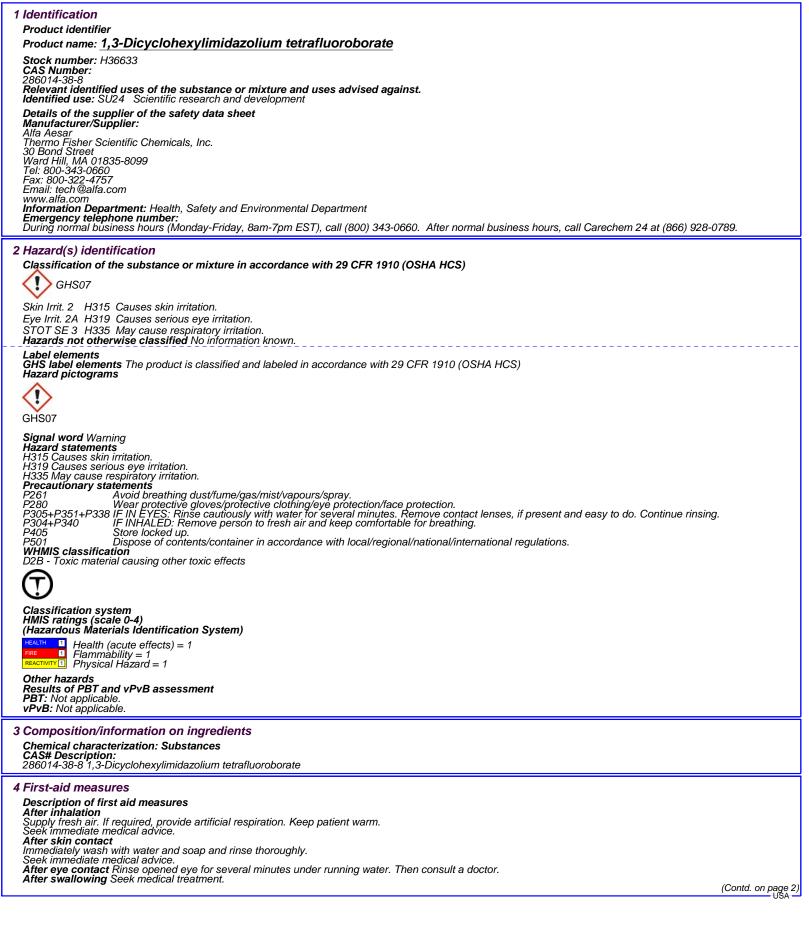


Safety Data Sheet per OSHA HazCom 2012



Product name: 1,3-Dicyclohexylimidazolium tetrafluoroborate

Page 2/4 Printing date 11/24/2015 Reviewed on 05/04/2015

(Contd. of page 1) 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 Carbon dioxide, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam. Special hazards arising from the substance or mixture If this product is involved in a fire, the following can be released: Carbon monoxide and carbon dioxide Hydrogen fluoride (HF) Nitrogen oxides (NOx) Boron oxide Advice for firefighters Protective equipment: Wear self-contained respirator. Wear fully protective impervious suit. 6 Accidental release measures Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away Ensure adequate ventilation Environmental precautions: Do not allow product to reach sewage system or any water course. Methods and material for containment and cleaning up: Ensure adequate ventilation. Prevention of secondary hazards: No special measures required. 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 Handle under dry protective gas. Keep container tightly sealed. Store in cool, dry place in tightly closed containers. Ensure good ventilation at the workplace. Information about protection against explosions and fires: No information known. Conditions for safe storage, including any incompatibilities Storage Requirements to be met by storerooms and receptacles: No special requirements. Information about storage in one common storage facility: Store away from water/moisture. Store away from oxidizing agents. Further information about storage conditions: Store under dry inert gas. This product is moisture sensitive. Keep container tightly sealed. Store in cool, dry conditions in well sealed containers. Protect from humidity and water. Specific end use(s) No further relevant information available. 8 Exposure controls/personal protection Additional information about design of technical systems: Properly operating chemical fume hood designed for hazardous chemicals and having an average face velocity of at least 100 feet per minute. 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. Additional information: No data Exposure controls Personal protective equipment General protective and hygienic measures General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all soiled and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin. Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Recommended filter device for short term use: Use a respirator with type N95 (USA) or PE (EN 143) cartridges as a backup to engineering controls. Risk assessment should be performed to determine if air-purifying respirators are appropriate. Only use equipment tested and approved under appropriate government standards. Protection of hands: Impervious gloves Check protection of suitable gloves prior to each use for their proper condition. The selection of suitable gloves not only depends on the material, but also on quality. Quality will vary from manufacturer to manufacturer. **Eye protection:** Safety glasses **Body protection:** Protective work clothing. 9 Physical and chemical properties Information on basic physical and chemical properties General Information Appearance: Form: Powder Color: White to pale brown Odor: Odor threshold: Not determined Not determined (Contd. on page 3)

Product name: 1,3-Dicyclohexylimidazolium tetrafluoroborate

Page 3/4 Printing date 11/24/2015 Reviewed on 05/04/2015

pH-value: Not applicable. Change in condition T73-177-C(343-31 *P) Meding point/leading range: T73-177-C(343-31 *P) Subtrinstic in comparture is supported in the demmined in the demined in the demined in the demmined in the demmined in the demmined	oduct name: 1,3-Dicyclohexylimida	azolium tetratiuorodorate
Change in condition The Transmission of		(Contd. of)
Meding pointMetting range: 17.17 C(343-517-F) Subtination mappediate fragments Not determined Farmability (colid gassesus) Not determined Construction mappediate fragments Not determined Farmability (colid gassesus) Not determined Construction mappediate fragments Not determined Auto digiting: Not determined Construction mappediate fragments Not determined Lipper: Not determined Upper: Not determined Construction mappediate fragments Not determined Person (notes) Not determined Construction mappediate fragments Not determined Person (notes) Not determined Viscosition Not determined Viscosition Not determined Viscosition Not determined Person (notes) Not determined Viscosition Not determined	•	Not applicable.
Boling pointBoling and ange: The Mit determined here and the second and the secon	Melting point/Melting range:	
Hammability (solid) gasous) Mid determined decomposition temporature: Mid determined Auto gaining: Mid determined Auto gaining: Mid determined Lower inter- Lower int	Boiling point/Boiling range:	Not determined
Inplicion temperature Mod determined Denger of explosion: Mod determined Denger of explosion: Mod determined Denger of explosion: Mod determined Uppor: Mod determined Uppor density Mod applicable Value of the important in the important intermined Mod determined Value of the important intermined Mod determined Value of the important intermined Mod applicable Value of the important intermined Mod applicable Value of the important intermined Mod applicable Other information Mod applicable Other information intermined Mod applicable Optimized stability of the information available Mod applicable Optimized stability of the information available Mod applicable <	Sublimation temperature / start:	
Decomposition temperature: Not determined Darage of explosion: Not determined Darage of explosion: Not determined Decomposition relation: Not determined Persity: Not determined Decomposition relation: Not determined Persity: Not determined Persity: Not determined Persity: Not determined Persity: Not determined Persity: Not determined Persity: Not determined Personation relation: Second advance Personation relation: Second advance Personation: Causes second evel Personation: Notice determined Personation: Noting Personation: Notice determined Persona	Ignition temperature:	Not determined
Parage of explosion: Not determined Explosion intris: Not determined Explosion intris: Not determined Very of pressure: Not determined Very of pressure: Not determined Very of pressure: Not dependence Very of existiv Not dependence	Decomposition temperature:	
Explosion limits: Not determined Upper: Not determined Paristy Not deplicable. Paristy Not de		
Lower: Mot determined by popersure: Mot determined by popersure: Mot determined benafic: Mot applicable benafic: Mot Mot Mot met recommended strage applicable benafic: Mot Mot Mot met recommended strage applicable benafic: Mot Mot Mot met recommended strage applicable benafic: Mot Mot Mot Mot met recommended strage applicable benafic: Mot	Explosion limits:	Not determined.
Variation pressure: Met applicable. Density: We applicable. Variation rate We applicable. Variation rate We applicable. Sector rate We applicable. Sector rate We applicable. Sector rate We applicable. Variation conflictent (n-columoWate): Not determined. We applicable. Stability and reactivity We applicable. Stability and reactivity: We applicable. Stability and reactivity: We applicable. Stability applicable. We applicable. Conditions to avoid No turber relevant information available. We applicable. Valuer agents We applicable.	Lower:	
Densify: Mod dolarmined Relative dama and the scheme of the scheme		
Relative density Mice deplicable. Very or density Mice applicable. Very of the applicable. Mice applicable. Solubility in / Miscibility with Mice applicable. Partition on officient (n-octano/water): Not determined. Mice applicable. Water: Not applicable. Other information Not applicable. Themail decomposition / control on monorded stronge conditions. Persition / Not applicable. Water: Solubility of Nazarobis relevant information available. Water: Not applicable. Vater: Not applicable. Vater: Not applicable. <th>Density:</th> <td>Not determined</td>	Density:	Not determined
Evaporation rate Not applicable. Not applicabl	Relative density	Not determined.
Soubling in / Mischillity with Not determined Particles coefficient (n-octanol/water): Not determined Viscosity: Not applicable of the information water (Not applicable of the information Not lufter relevant information available. Differentiation of the information known. Chemical stability Stabili under recommended storage conditions. Chemical stability Stabili under recommended storage conditions. Chemical stability Stabili under recommended storage conditions. Chemical stability of hazardous reactions Reacts with storag conditions and stored according to specifications. Possibility of hazardous reactions Reacts with storag conditiona gents forompatible and remove relevant information available. Thermal decomposition conducts: Carbon monoxide and carbon dioxide fyringen fluore thermation for the information framework information available. Toroicological information foromation or corrosion: Causes storage specification: No data fyringen fluore thermation or corrosion: Causes storage provide according in provide the formation. Fyringen fluore family in Assertance and the information for on corrosion: Causes storage provide according in provide the formation. Fyringen fluore family in a sensitization: No data first information or corrosion: Causes storage provide provide information. Fyringen fluore family in a sensitization: No data first information for or corrosion: Causes storage provide provide provide provide provide provide information for or corrosion: Causes storage provide pr	Vapor density	Not applicable. Not applicable
Water: Not determined hybridion Water: Not applicable work Water: Not applicable work Other information Not applicable work Other information Not applicable work Stability and reactivity Reactivity No information known. Persisting: Other information available. Stability and reactivity Reactivity No information known. Conditions to avoid No further relevant information available. Not applicable. Possibility of there are information available. Not applicable. Conditions to avoid No further relevant information available. Not applicable. Microapeutic Information Not applicable. Nitrogen oxides Stability of there are information available. Information on toxicological affects Stability of there are information. Information on corrosion: Causes serious eye initiation. No data Event that provide the are information. No data Stik intration or corrosion: Causes serious eye initiation. Stik intration or corrosion: Causes serious eye initiation. Event that on or corrosion: Causes serious eye initiation. Stik intration or corrosion: Causes serious eye initiation.	Solubility in / Miscibility with	
Viscosity: We applicable where the second of the second se	Water:	
dynamic: Mol applicable. Other Information Mol applicable. Other Information Mol further relevant information available. O Stability and reactivity Reactivity No information known. Reactivity No information known. Reactivity No information known. Pessibility of hidromation known. Reactivity No information o be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hidromation products: Haardbas decomposition products: Haardbas decomposition products: Haardbas decomposition products: Hord applicable. Not applicable. Waterimokuw Reactivity No further relevant for classification: No data String econolition. Induction or corresion: Classification: No data Stringe control data are indequale for an assessment of human carcinogenic potential. Carcinogenicity: EPA1: Cata are indequate for an assessment of human carcinogenic potential. Applicable. Specific args system toxicity - single exposure: No effects known. Applicable. Reactivity No f	Viscosity:	Not determined.
kinematic: Not applicable: O Stability and reactivity No further relevant information available. O Stability and reactivity Reactivity No information known. Channed stability Stabie under relevant information available. Construct stability of heardboards reactions feasts with strong oxidizing agents Conditions to avoid No further relevant information available. No further relevant information available. Conditions to avoid No further relevant information available. No further relevant information available. Model and each of known Caston monowide and cathon dixide diverse of the strength of the strengt of the strength of the strengt of the strength of the	dynamic:	
O Stability and reactivity Reactivity No information known. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Premaid decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Pressibility of No further relevant information available. Incompatible materials: Dividing agains Hazardous feedoms of the store according to specifications. Dividing agains Dividing agains Hazardous decomposition products: Cardion monoide and carbon dioxide Dividing agains I Toxicological information Information on toxicological effects Actual toxicity: No effects known. Dividing agains Everification or corrosion: Causes serious eye (initiation. Sensitization. Sensitization nor oxicological effects Actual toxicity: No effects known. Germ cell mutagenicity: No effects known. Germode and chorid key accuse respiration. Specific target organ system toxicity - respected exposure. No espiration accusity intriation. Actual toxicity - respected exposure. No espiration. Specific target organ system toxicity - single exposure. No espiration, accusity intriation. Actual toxicological information. Specific target organ system toxicity - single exposure. No espiration, accusity in the substance is not	kinematic:	Not applicable.
Reactivity No information Index recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of heardous reactions Reactors available. WeaterMosture Pressibility Charactous reactions Reactors		No further relevant information available.
Reactivity No information known. Chemical Statistity Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Proceeding and the storage of t	Stability and reactivity	
Chemical stability Stable under recommended storage conditions. Possibility of hazardous reactions Reacts with strong oxidizing agents Possibility of hazardous reactions Reacts with strong oxidizing agents with moistures Watermoistures Watermoistures Watermoistures Hazardous decomposition products: Hazardous defects known. Garcinogenicity: EPAT. Data are indequate for an assessment of human carcinogenic potential. Carcinogenicity: EPAT. Data are indequate for an assessment of human carcinogenic potential. Hazard: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Subacute to chronic toxicity: No times researd to our knowledge the acute and chronic toxicity of this substance is not fully known. Hadditional coxicological information: To the beat of our knowledge the acute and chronic toxicity of this substance is not fully known. Hadditional coxicological information: Hazard the environment. Hazardous decomposition on available. Hobility in potential No further relevant information available. Hobility in pot		
Possibility of hazardous reactions Reacts with strong oxidizing agents Conditions of avoid No functor relevant information available. Incompatible metrials: Working agents Hazardous decomposition products: Carton moxude and carbon dioxide Hydrogen fluoride Hydrogen fluor	Chemical stability Stable under recomm	uended storage conditions
Possibility of hazardous reactions Reacts with strong oxidizing agents Conditions of avoid No functor relevant information available. Incompatible metrials: Working agents Hazardous decomposition products: Carton moxude and carbon dioxide Hydrogen fluoride Hydrogen fluor	Thermal decomposition / conditions to	b be avoided: Decomposition will not occur if used and stored according to specifications.
Incompatible materials: Water/mosible Valent/mosible Provide and carbon dioxide Valent/mosible Carbon monoxide and carbon dioxide Hydrogen fluoride Hydrogen fluoride Hydrogen fluoride Second carbon dioxide Boron oxide Information on toxicological effects Actual text toxicity: No effects known. Cassification: No data Ever finitiation or corrosion: Causes serious eye irritation. Second carbon monoxic Sensitization: No sensitization effects known. Generation of the second carbon dioxide carbon dioxide for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Generation for the second carbon dioxide carbon dioxide carbon monoxis Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Maide and toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 22 Ecological information Toxicity Additional exclosicity: No effects known. Specific target data set postegration available. Persistence and degradability No further relevant information available. Persistence and degradability No further relevant informatio	Possibility of hazardous reactions Rea	ncts with strong oxidizing agents
Watermoisture Ovidizing agents Hazardous decomposition products: Ovidizing agents Hazardous decomposition products: Ovidizing agents Hazardous decomposition products: Ovidizing agents National control of consolerations for ministic in control of consolerations for ministic in on consolerations clauses static intration. 1 Toxicological information Information on toxicological effects Acute toxicity: No effects known. LD/LCS0 values that are relevant for classification: No data Skin initiation or corrosion: Causes serious eye initiation. Sensitization: No sensitization: No sensitization: No selest Skin initiation or corrosion: Causes serious eye initiation. Generation: No sensitization: No sensitization: Sensitization: No sensitization: No effects known. Garcinogenicity: EPA+: Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Mattice No further relevant information available. Persistence and degradability No further relevant information available. Montality pointial No further relevant information available. Montality opticable. Montality opticable. <t< th=""><th>Incompatible materials:</th><th>information available.</th></t<>	Incompatible materials:	information available.
Hazardous decomposition products: Carbon moxide and carbon dioxide Hydrogen fluoride Mirrogen voidess Boron oxide 1 Toxicological information Information on toxicological effects Acute toxicity: No effects Known. 2 Information or toxicological effects Acute toxicity: No effects Known. Sensitization: No sensitization: Sensitization: No data Sensitization: No sensitization: Causes seturination. Sensitization: No sensitization: Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Garcinogenicity: EPA-1: Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: Nay cause respiratory irritation. Aspiration hazard: No effects known. Specific target organ system toxicity - single exposure: Nay cause respiratory irritation. Aspiration facts known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 22 Ecological information Toxicity Adjuitional toxicological information available. Aquatic toxicity: No further relevant information available. Aquatic toxicity: No further relevant information available. Additional ecological information: General nots: Do tallow undiluted pr	Water/moisture	
Carbon monoxide and carbon dioxide Mirogen oxides Borin oxide Constrained Dirogen oxides Constrained Dirogen Constrained Dirogen Constrained Dirogen Constrained Dirogen Diro	Oxidizing agents	
Hydrogen fluoride Boron oxide 1 Toxicological information Information on toxicological effects Acute toxicity: No effects known. LDVLCSO vulses that are relevant for classification: No data Skin irritation or corrosion: Causes skin irritation. Eye irritation or corrosion: Causes skin irritation. Germi cell mutagenicity: No effects known. Garcinogenicity: FXP-1 Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - single exposure: Na effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological Information Toxicity Aquatic toxicoly: No further relevant information available. Repravallative potential No further relevant information available. Resistence and degradability No further relevant information available. Resistence and volagical information: Avoid transfer into the environment. Additional ecological information: Central active information: Toxicity Aguatic toxicity: No further relevant information available. Rescue and degradability No further relevant information available. <th>Carbon monoxide and carbon dioxide</th> <th></th>	Carbon monoxide and carbon dioxide	
Borin oxide 1 Toxicological information Information on toxicological effects Acute toxicity: No effects known. Skin inritation or corrosion: Causes serious eye intation. Eye inritation or corrosion: Causes serious eye intation. Germ cell mutagenicity: No effects known. Germ cell mutagenicity: No effects known. Garcinogenicity: EPA-I: Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquitic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Boaccumulative potential No further relevant information available. Additional ecological information: Consider additional ecological information Carcinger of PBT and CPVB assessment Persistence PBT and CPVB assessment Pyers: Not applicable. VPVB: Not applicable. VPVB: Not applicable.	Hydrogen fluoride	
1 Toxicological information Information on toxicological effects Acute toxicological effects Acute toxicological effects Skin irritation or corrosion: Causes skin irritation. Eye irritation or corrosion: Causes skin irritation. Eye irritation or corrosion: Causes skin irritation. Sensitization: No sensitization of corrosion: Causes skin irritation. Germ cell mutagenicity: No effects known. Garcinogenicity: EPA-1 Data are indedquate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity repeated exposure: No effects known. Subscure to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 24 Ecological information Toxicity Additional ecological information available. Bioaccumulative potential No further relevant information available. Bioaccumulative potential No further relevant information available. Additional ecological information: General notes: Do tallow undiluted product or large quantilities to reach ground water, water course or sewage system. Avoid transfer into the environment. Resonmentation: <t< th=""><th>Nitrogen oxides Boron oxide</th><th></th></t<>	Nitrogen oxides Boron oxide	
Information on toxicological effects Acute toxicity: No effects known. LD/LC50 values that are relevant for classification: No data Skin irritation or corrosion: Causes selvi irritation. Eye irritation or corrosion: Causes selvi irritation. Sensitization: No sensitization of effects known. Garcinogenicity: EVA offects known. Garcinogenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity: No effects known. Specific target organ system toxicity: No effects known. Specific target organ system toxicity: No effects known. Subacute to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 22 Ecological information Toxicity Aquatic 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. Mobility in soil No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant informati		
Acute toxicity: No effects known. LD/LCSO values that are relevant for classification: No data Skin irritation or corrosion: Causes skin irritation. Sensitization : No sensitizing effects known. Germ cell mutagenicity: No effects known. Carcinogenicity: EPA-I: Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - repeated exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Prosecutive toxicity: No further relevant information available. Research and degradability No further relevant information available. Mobility mol No Anther relevant information available. Additional ecological information: General notes: Do not allow unditued product or large quantities to reach ground water, water course or sewage system. Avoid transpiration tore assessment PBT: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDC, IATA Not applicable	Toxicological information	
Acute toxicity: No effects known. LDLCSO values that are relevant for classification: No data Skin Irritation or corrosion: Causes skin irritation. Eye irritation or corrosion: Causes serious eye irritation. Sensitization: No sensitizing effects known. Germ cell mutagencity: EPA-I: Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Brisstence and degrability No further relevant information available. Argustic toxicity: No further relevant information available. Additional ecological information: Bobility in soil Nourither relevant information available. Argustic toxicity: No further relevant information available. Argustic toxicity and variable relevant information available. Bobility in soil Nourither relevant information available.	Information on toxicological effects	
Skin irritation or corrosion: Causes skin irritation. Eye irritation or corrosion: Causes serious eye irritation. Sensitization: No sensitizing effects known. Germ cell mutagenicity: EPA-I: Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Cological information Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soll No further relevant information available. Additional ecological information: Do not allows Do not allows Bioaccumulative potential No further relevant information available. Additional ecological information: Do not allows: Bioaccumulatin the prelevant information available.	Acute toxicity: No effects known.	aniliantian. No data
Eye irritation or corrosion: Causes serious eye irritation. Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and YPVB assessment PBT: Not applicable. Other adverse effects No further relevant information available. YPW: Not applicable. YPW: Not applicable. YPW: Not applicable. YPW: Not applicable. YP		
Germ cell mutagenicity: FN6 effects known. Carcinogenicity: FN8-FD Data are inadequate for an assessment of human carcinogenic potential. Reproductive toxicity: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Subacute to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. VPVB: Not applicable. Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-NIMDG, IATA Not applicable	Eye irritation or corrosion: Causes serie	ous eye irritation.
Reproductive toxicity: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and VPB assessment PBT: Not applicable. VPVB: Not applicable. Other adverse effects No further relevant information available. Bisposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DoT, ADN, IMDG, IATA Not applicable	Sensitization: No sensitizing effects know	WN.
Reproductive toxicity: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Additional toxicological information available. Persistence and degradability No further relevant information available. Presistence and degradability No further relevant information available. Presistence and degradability No further relevant information available. Bioaccumulative potential No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and VPVB assessment PBT: Not applicable. Other adverse effects No further relevant information available. Supposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport inf	Carcinogenicity: EPA-1: Data are inadeg	vn. Juate for an assessment of human carcinogenic potential.
Specific target organ system toxicity - single exposure: May cause respiratory irritation. Aspiration hazard: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquatic toxicity: No further relevant information available. Bioaccumulative potential No further relevant information available. Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant information available. Bioaccumulative potential No further relevant information available. Bioaccumulative product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPVB assessment PBT: Not applicable. VPVB: Not applicable. Bioaccumulative applicable. Bioaccumul	Reproductive toxicity: No effects known	
Subacule to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquiatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccurrent of the event information available. Mobility in soil No further relevant information available. Mobility in soil No further relevant information available. Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPVB: Not applicable. vPVB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation: Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information <th>Specific target organ system toxicity -</th> <th>repeated exposure: No effects known. single exposure: May cause respiratory irritation</th>	Specific target organ system toxicity -	repeated exposure: No effects known. single exposure: May cause respiratory irritation
Subacule to chronic toxicity: No effects known. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known. 2 Ecological information Toxicity Aquiatic toxicity: No further relevant information available. Persistence and degradability No further relevant information available. Bioaccurrent of the event information available. Mobility in soil No further relevant information available. Mobility in soil No further relevant information available. Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPVB: Not applicable. vPVB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation: Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information <th>Aspiration hazard: No effects known.</th> <th>Single Exposure. Way basis respiratory initiation.</th>	Aspiration hazard: No effects known.	Single Exposure. Way basis respiratory initiation.
2 Ecological information Toxicity Aquatic 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. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPVB assessment PBT: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA	Subacute to chronic toxicity: No effects	S KNOWN.
Toxicity Aquatic 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. Mobility in soil No further relevant information available. Mobility in soil No further relevant information available. Mobility of product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. VPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable		
Toxicity Aquatic 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. Mobility in soil No further relevant information available. Mobility in soil No further relevant information available. Mobility of product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. VPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Ecological information	
Aquatic 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. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation: Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA	Toxicity	
Bioaccumulative potential No further relevant information available. Mobility in soil No further relevant information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Aquatic toxicity: No further relevant info	rmation available.
Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA	Persistence and degradability No further re	۶۲ relevant information available. Ievent information available
Additional ecological information: General notes: Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Mobility in soil No further relevant inform	nation available.
Do not allow undiluted product or large quantities to reach ground water, water course or sewage system. Avoid transfer into the environment. Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Additional ecological information:	
Avoid transfer into the environment. The second sec		antities to reach around water water course or sewade system.
Results of PBT and vPvB assessment PBT: Not applicable. vPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Avoid transfer into the environment	anilites to reach ground water, water course or comage cystem.
vPvB: Not applicable. Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Results of PBT and vPvB assessment	
Other adverse effects No further relevant information available. 3 Disposal considerations Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA	vPvR· Not applicable.	
Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Other adverse effects No further relevan	nt information available.
Waste treatment methods Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Dispessel considerations	
Recommendation Consult state, local or national regulations to ensure proper disposal. Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	-	
Uncleaned packagings: Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable		r notional regulations to oncure proper disposal
Recommendation: Disposal must be made according to official regulations. 4 Transport information UN-Number DOT, ADN, IMDG, IATA Not applicable	Uncleaned packagings:	
UN-Number DOT, ADN, IMDG, IATA Not applicable		de according to official regulations.
UN-Number DOT, ADN, IMDG, IATA Not applicable	Transport information	
DOT, ADN, IMDG, IATA Not applicable		
		Not applicable
UN proper shipping name	UN proper shipping name	
DOT, ADN, IMDG, IATA Not applicable	DOT, ADN, IMDG, IATA	
(Cor		(Contd. on

Product name: 1,3-Dicyclohexylimidazolium tetraflu	Joroborate	
······································	(Contd. of page 3)	
Transport hazard class(es)		
DOT, ADR, ADN, IMDG, IATA		
Class	Not applicable	
Packing group DOT, IMDG, IATA	Not applicable	
Environmental hazards:	Not applicable.	
Special precautions for user	Not applicable.	
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.		
Transport/Additional information:		
DOT Marine Pollutant (DOT):	Ma	
Marine Pollutant (DOT): UN "Model Regulation":	No	
15 Regulatory information Safety, health and environmental regulations/legislation s GHS label elements The product is classified and labeled in Hazard pictograms GHS07	specific for the substance or mixture accordance with 29 CFR 1910 (OSHA HCS)	
 P304+P340 IF INHALED: Remove person to fresh air a Store locked up. P501 Dispose of contents/container in accordan National regulations This product is not listed in the U.S. Environmental Protection to research and development only. This product must be used product must not be used for commercial purposes or in form This product is not listed on the Canadian Domestic Substance SARA Section 313 (specific toxic chemical listings) Subst California Proposition 65 Prop 65 - Chemicals known to cause cancer Substance is Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, male Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Prop 65 - Developmental toxicity, female Substance is not listed. Substance of Very High Concern (SVHC) according to the The conditions of restrictions according to Article 67 and market and use must be observed. Substance is not listed. Annex XIV of the REACH Regulations (requiring Authoriss Chemical Safety assessment: A Chemical Safety Assessment: A Chemical Safety Assessment 	g/eye protection/face protection. for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. and keep comfortable for breathing. nce with local/regional/national/international regulations. In Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted ad by or directly under the supervision of a technically qualified individual as defined by TSCA. This nulations for commercial purposes. Inces List (DSL) or the Canadian Non-Domestic Substances List (NDSL). stance is not listed. t listed. isted. isted. ically qualified individuals. S be REACH Regulations (EC) No. 1907/2006. Substance is not listed. d Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the	
information to ensure proper use and protect the health and s conformance with this Material Safety Data Sheet, or in comb Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/24/2015 / -	to other information gathered by them, and should make independent judgement of suitability of this safety of employees. This information is furnished without warranty, and any use of the product not in bination with any other product or process, is the responsibility of the user.	

IARC: International Agency for Research on Cancer EPA: Environmental Protection Agency (USA)

- USA -