

# Safety Data Sheet per OSHA HazCom 2012

Reviewe	01109/05/2003
1 Identification	
Product identifier	
Product name: 2,4-Difluorophenyl isocyanate	
Stock number: 36537 CAS Number: 59025-55-7	
Relevant identified uses of the substance or mixture and uses advised against. Identified use: SU24 Scientific research and development	
Details of the supplier of the safety data sheet Manufacturer/Supplier: Alfa Aesar	
Thermo Fisher Scientific Chemicals Inc.	
30 Bond Street Ward Hill, MA 01835-8099 Tel: 800-343-0660 Fax: 800-322-4757	
Email: tech@alfa.com www.alfa.com	
Information Department: Health, Safety and Environmental Department Emergency telephone number: During normal business hours (Monday-Friday, 8am-7pm EST), call (800) 343-0660. After normal business hours, call Carechem 24 at (866) 928-07	'89.
2 Hazard(s) identification	
Classification of the substance or mixture in accordance with 29 CFR 1910 (OSHA HCS)	
GHS02 Flame	
Flam. Liq. 3 H226 Flammable liquid and vapour.	
GHS06 Skull and crossbones	
Acute Tox. 3 H331 Toxic if inhaled.	
GHS07	
Acute Tox. 4 H302 Harmful if swallowed. Acute Tox. 4 H312 Harmful in contact with skin.	
Skin Irrit. 2 H315 Causes skin irritation. Eye Irrit. 2A H319 Causes serious eye irritation.	
STOT SE 3 H335 May cause respiratory irritation. Hazards not otherwise classified No information known.	
Label elements GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms	
GHS02 GHS06	
Signal word Danger Hazard statements	
H226 Flammable liquid and vapour. H302+H312 Harmful if swallowed or in contact with skin. H331 Toxic if inhaled.	
H315 Causes skin irritation. H319 Causes serious eye irritation.	
H335 May cause respiratory irritation. <b>Precautionary statements</b> P210 Keep away from heat/sparks/open flames/hot surfaces. No smoking.	
P261 Avoid breathing dust/fume/gas/mist/vapours/spray. P303+P361+P353 If on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower. P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P405 Store locked up.	
P501 Dispose of contents/container in accordance with local/regional/national/international regulations. WHMIS classification B3 - Combustible liquid	
D1B - Toxic material causing immediate and serious toxic effects D2B - Toxic material causing other toxic effects	
Classification system HMIS ratings (scale 0-4)	
(Hazardouš Materials Identification System)	
HEATH       2         HEATH       3         Heath       4         HEATH <td< td=""><td></td></td<>	
Other hazards Results of PBT and vPvB assessment PBT: Not applicable.	

**PBT:** Not applicable. **vPvB:** Not applicable.

Page 2/5 Printing date 11/24/2015 Reviewed on 09/05/2003

<pre>3 CompositionInformation on Ingredients Chemical characterisation: Subtances Subt</pre>		(Contd. of page 1)
Description of first aid measures         Mark inhibition           Mark inhibition         Mark inhibition           State kin constant         Mark inhibition           Mark inhibition         Mark inhibition           Mark inhibition         Mark inhibition           State kin constant         Mark inhibition	Chemical characterization: Substances CAS# Description:	
Extinguishing media Suitable extinguishing agents in case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water. For splity reasons unalable extinguishing agents Wider If this product is involved in a fire, the following can be released: Carbon monocide and parton dioxide Hythogen oxides (NCM) Norgen oxides (NCM) Norgen oxides (NCM) Response to the split of	Description of first aid measures After inhalation Supply fresh air. If required, provide artificial respiration. Keep patient warm. Seek immediate medical advice. After skin contact Immediately wash with water and soap and rinse thoroughly. Seek immediate medical advice. After eye contact Rinse opened eye for several minutes under running water. Then consult a doctor. After swallowing Seek medical treatment. Information for doctor	
Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensuite adequate vehilation Reag away from ignition sources and material for containment and cleaning up: Reag away from ignition sources Absorb with figue-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of containminated material is and, acid binders, universal binders, sawdust). Dispose of containminated material is away excording to seekon 13. Do not flush with water or aqueous cleansing agents De not flush water of the provide the provide the approximation. 7 Handling and storage Preceutions for safe handling Rece continer fightly seation. Information about protection against texplosions and fires: Protect against electrostatic charges Requirements to be met by storerooms and receptacles. No special requirements. Information about storest containers. Stores way from aclohals Stores way from aclohals Stores way from aclohals Stores way from aclohals Requirements to be met by storerooms and receptacles. No special requirements. Information about dosign of technical systems: Protect information about dosign of technical systems: Protect information about dosign of technical systems: Protect information about dosign of technical systems: Protect in	Extinguishing media Suitable extinguishing agents In case of fire, use sand, carbon dioxide or powdered extinguishing agent. Never use water. For safety reasons unsuitable extinguishing agents Water 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) Hydrogen oxide (HCN) Nitrogen oxides (NOx) Advice for firefighters Protective equipment: Wear self-contained respirator.	
Hadding       Frequencies         Procentions for safe handling       Keep container tightity sealed.         Store in cool, dry place in tightity closed containers.       Ensure good ventilation at the workplace.         Information about protection against explosions and fires:       Protect against electrostatic charges.         Protect against electrostatic charges.       Fumes can combine with air to form an explosive mixture.         Keep ignition sources away.       Conditions for safe storage, including any incompatibilities         Store in cools for safe storage on one common storage facility:       Store away from storage in one common storage facility:         Store away from oxidizing agents.       Store in cool, dry conditions in well sealed containers.         Store in cool, dry conditions in well sealed containers.       Store in cool, dry conditions in well sealed containers.         Specific end use(s) No further relevant information available.       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: Not required.         Additional information. No data       Exposure controls         Evensue controls       Presonal forective and bigienic measures         General protective equippment<	Personal precautions, protective equipment and emergency procedures Wear protective equipment. Keep unprotected persons away. Ensure adequate ventilation Keep away from ignition sources Environmental precautions: Do not allow material to be released to the environment without proper governmental permits. Methods and material for containment and cleaning up: Keep away from ignition sources. Absorb with liquid-binding material (sand, diatomite, acid binders, universal binders, sawdust). Dispose of contaminated material as waste according to section 13. Ensure adequate ventilation. Do not flush with water or aqueous cleansing agents Prevention of secondary hazards: Keep away from ignition sources. Reference to other sections See Section 7 for information on safe handling See Section 7 for information on personal protection equipment.	
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: Not required. Additional information: No data Exposure controls Personal protective equipment General protective and hygienic measures The usual precautionary measures for handling chemicals should be followed. Keep away from foodstuffs, beverages and feed. Remove all solied and contaminated clothing immediately. Wash hands before breaks and at the end of work. Avoid contact with the eyes and skin.	Handling         Precautions for safe handling         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:         Protect against electrostatic charges.         Fumes can combine with air to form an explosive mixture.         Keep ignition sources away.         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 strong bases.         Store away from storage conditions:         Further information about storage conditions:         Keep container tightly sealed.         Store in cool. dry conditions in well sealed containers.	
(Contd. on p	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: Not required. Additional information: No data Exposure controls Personal 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.	(Contd. on page 3)

### Product name: 2,4-Difluorophenyl isocyanate

(Contd. of page 2) Maintain an ergonomically appropriate working environment. Breathing equipment: Use suitable respirator when high concentrations are present. Protection of hands: Impervious gloves Check protective 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: Liquid Colorless Color: Not determined Odor: Odor threshold: pH-value: Not determined.

	not determined.
Change in condition Melting point/Melting range: Boiling point/Boiling range: Sublimation temperature / start:	Not determined 42 °C (108 °F) ((6mm Hg)) Not determined
Flash point: Flammability (solid, gaseous) Ignition temperature: Decomposition temperature: Auto igniting:	50 °C (122 °F) Not determined. Not determined Not determined Not determined.
Danger of explosion: Explosion limits: Lower: Vapor pressure: Density at 20 °C (68 °F): Relative density Vapor density Evaporation rate Solubility in / Miscibility with Water:	Product is not explosive. However, formation of explosive air/vapor mixtures is possible. Not determined Not determined 1.309 g/cm³ (10.924 lbs/gal) Not determined. Not determined. Not determined. Reacts
Partition coefficient (n-octanol/water): Viscosity:	Not determined.
dynamic:	Not determined.
kinematic:	Not determined.
Other information	No further relevant information available.

### 10 Stability and reactivity

Reactivity No information known. Chemical stability Stable under recommended storage conditions. Thermal decomposition / conditions to be avoided: Decomposition will not occur if used and stored according to specifications. Possibility of hazardous reactions No dangerous reactions known Conditions to avoid No further relevant information available. Incompatible materials: Bases Oxidizing agents Alcohols Hazardous decomposition products: Carbon monoxide and carbon dioxide Hydrogen fluoride Hydrogen cyanide Nitrogen oxides 11 Toxicological information Information on toxicological effects Acute toxicity: Harmful if inhaled. Harmful in contact with skin. Harmful if swallowed.

Danger through skin absorption. LD/LC50 values that are relevant for classification: No data

LD/LC50 values that are relevant for classification: No data Skin irritation or corrosion: Causes skin irritation. Eye irritation or corrosion: Causes skin irritation. Sensitization: No sensitizing effects known. Germ cell mutagenicity: No effects known. Carcinogenicity: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - repeated exposure: No effects known. Specific target organ system toxicity - single exposure: May cause respiratory irritation. Subacute to chronic toxicity: No effects known. Subacute to chronic toxicity: Subacute to chronic toxicity: Isocyanates are extremely irritating to the skin, eyes and mucous membranes. Exposure may be fatal. Symptoms include burning sensation, coughing, wheezing, laryngitis, headache, nausea and vomiting. Additional toxicological information: To the best of our knowledge the acute and chronic toxicity of this substance is not fully known.

### 12 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.

(Contd. on page 4)

## Safety Data Sheet per OSHA HazCom 2012

Mobility In soll No further viewast information available.       (Cond. of Layer 3)         Addition and the solution mathematics of the environment without proper governmental permit.       (Cond. of Layer 3)         One of allow mathematics of the environment without proper governmental permit.       (Cond. of Layer 3)         Additional formation       (Cond. of Layer 3)     <					
ModRy is all to by the prevent information available.       Image: Construction of the prevent information available.         Construction of all optimized to be information available.       Image: Construction of the prevent information available.         Construction of all optimized to be information available.       Image: Construction of the prevent information available.         13 Disposal considerations       Image: Construction of the prevent information available.         14 Transport Information       Image: Construction of the prevent information available.         15 Disposal considerations       Image: Construction of the prevent information available.         16 Transport Information       Image: Construction of the prevent information available.         17 Transport Information       Image: Construction of the prevent information available.         18 Transport Information       Image: Construction of the prevent information available.         19 Optimized State (Construction of the prevent information available.       Image: Construction of the prevent information available.         19 Optimized State (Construction of the prevent information available.       Image: Construction of the prevent information available.         10 Optimized State (Construction of the prevent information available.       Image: Construction of the prevent information available.         19 Optimized State (Construction of the prevent information available.       Image: Construction of the prevent information available.         10 Opti (Cons	Product name: 2,4-Difluorophenyl isocyanate				
Wase treatment methods Recommendation: Consultation, Local or national regulations to ensure proper disposal.           11 Transport information           12 Transport information           13 Transport information           14 Transport information           15 Transport information           16 Transport information           17 Transport information           18 Transport information           19 Transport in bolk socializations for users if of MARPOLTXPB and the IBC Code Not substances           19 Transport in bolk socializations for users if of MARPOLTXPB and the IBC Code Not substances           19 Transport in bolk socinding to Annex if of MARPOLTXPB and the IBC Code Not substances </th <th colspan="5">Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow material to be released to the environment without proper governmental permits. 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.</th>	Mobility in soil No further relevant information available. Additional ecological information: General notes: Do not allow material to be released to the environment without proper governmental permits. 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.				
Recommendation Consult state. Icoal or national regulations to ensure proper disposal. Kecommendation (Providence)         14 Transport Information         UM Humber 1A       UN2206         UM proper shipping name Mode, UATA       IN2206         UD T       INSCRIPTION (State State)         OUT       INSCRIPTION (State)         INSCRIPTION (State)	13 Disposal considerations				
UN-Number DOT, IMOC, IATA       UN2206         UN proper shipping name MBCe, IATA       Iscumates, taxic, n.n.s. (2.4-Diffuorophenyl iscoyanate)         Transport hazard class(es)       SOCYAMATES, TOXIC, N.O.S. (2.4-Diffuorophenyl iscoyanate)         DOT       Image: Construction of the second se	<b>Recommendation</b> Consult state, local or national regulations to ensure proper Uncleaned packagings:	disposal.			
DOT, MIOG, IATA     UN2206       UN proper shipping name     Incorporations, toxic, n.o.s. (2.4.Difluorophenyl isocyanate)       Transport hazard class(es)     DOT       OT     Image: Class isocyanates, indication of the substances, indication of the substance, indication, indication of the substance, indication, indication of the substance, indication of the substance, indication of the substance, indication of the substance, indication, indication, indication of the substance, indication, indication of the substance, indication of the substance, indication of the substance, indication of the substance, indication, indication, indication, indication, indication					
Uk proper shipping name DOC MOG, LATA       Isocyanates, toxic, n.o.s. (2.4-Offluorophenyl isocyanate)         Transport hazard class(es)       Isocyanates, toxic, n.o.s. (2.4-Offluorophenyl isocyanate)         Transport hazard class(es)       Isocyanates, toxic, n.o.s. (2.4-Offluorophenyl isocyanate)         Off       Isocyanates, toxic, n.o.s. (2.4-Offluorophenyl isocyanate)         Interview       6.1		UN2206			
DOT       Recreptionality, Dote, To AS, (2 4-Diffuscrophiery) isocyanate)         INDO, LATA       ISOC KNATES, TONC, NO.S. (2 4-Diffuscrophiery) isocyanate)         Transport hazard class(es)       DOT         INDO, LATA       ISOC KNATES, TONC, NO.S. (2 4-Diffuscrophiery) isocyanate)         INDO, LATA       ISOC KNATES, TONC, NO.S. (2 4-Diffuscrophiery) isocyanate)         INDO, INTA       Estimates         Class       6.1 Toxic substances.         Integer       6.1 (T1) Toxic substances         INDO, INTA       6.1 Toxic substances.         Class       6.1 Toxic substances.         Integer       6.1 Toxic substances.         Integer       6.1 Toxic substances.         Integer       6.1 Toxic substances.         Integer       0.1 Mole, NTA         INDO, MATA       MI         DOT, MIOG, ATA       MI         DOT, MIOG, ATA       MI         Environmental hazards:       Not applicable.         Transport in bulk according to Annex II of MARPOLT3/T8 and the IBC Code Not applicable.         Transport in bulk according to Annex II of MARPOLT3/T8 and the IBC Code Not applicable.         Transport in bulk according to Annex II of MARPOLT3/T8 and the IBC Code Not applicable.         Transport in bulk according to Annex II of MARPOLT3/T8 and the IBC Code Not applicable.	UN proper shipping name				
Transport hazard class(es)         DOT         Class       6.1 Toxic substances.         Class       6.1 (11) Toxic substances.         Class       6.1 (10) Toxic substances.         Class       6.1 (10) Toxic substances.         Eabel       6.1 (10) Toxic substances.         Dot, MBDG, NTA       111         Dot, MBDG, NTA       111         Dot, MBDG, NTA       111         Special precautions for user       Warning: Toxic substances         Transport/Additional Information:       111         DOT       Model Regulation*:       UN2206, Isocyanates, Ioxic, n.o.s. (2.4-Diffuorophenyl isocyanate), 6.1, ill         UN "Model Regulation*:       UN2206, Isocyanates, Ioxic, n.o.s. (2.4-Diffuorophenyl isocyanate), 6.1, ill         Tansport/Additional information:       112         Special precautions for mortal regulations/legislation specific for the substance or mixture         GMS based bernews the protocol is classified and tabeled in accordance with 29 CFR 1910 (OSHA HCS)         Hazard pictograms       Free Protocol is classified and tabeled in accordance with 29 CFR 1910 (OSHA HCS)         Hazard pictograms       Free Protocol is classified	DOT	Isocyanates, toxic, n.o.s. (2,4-Difluorophenyl isocyanate) ISOCYANATES, TOXIC, N.O.S. (2,4-Difluorophenyl isocyanate)			
Label       6.1         Packing group       III         DOT, MUGC, IATA       III         Environmental hazards:       Not applicable.         Special precautions for user       Warning: Toxic substances         Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.       Transport/Additional information:         DOT       Marine Pollutant (DOT):       No         Item:       UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2.4-Difluorophenyl isocyanate), 6.1, III         17 Regulatory information       Safety, health and environmental regulations/legislation specific for the substance or mixture effects and pictograms       Safety, health and environmental regulations/legislation specific for the substance or mixture effects and pictograms         Work       With and environmental negulations/legislation specific for the substance or mixture effects and pictograms         Work       With and environmental regulations/legislation specific for the substance or mixture effects and pictograms         Work       With and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations/legislation and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations.         Work       With Skin.       Hill	DOT Class Label Class Label	6.1			
Label       6.1         Packing group       III         DOT, MUGC, IATA       III         Environmental hazards:       Not applicable.         Special precautions for user       Warning: Toxic substances         Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.       Transport/Additional information:         DOT       Marine Pollutant (DOT):       No         Item:       UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2.4-Difluorophenyl isocyanate), 6.1, III         17 Regulatory information       Safety, health and environmental regulations/legislation specific for the substance or mixture effects and pictograms       Safety, health and environmental regulations/legislation specific for the substance or mixture effects and pictograms         Work       With and environmental negulations/legislation specific for the substance or mixture effects and pictograms         Work       With and environmental regulations/legislation specific for the substance or mixture effects and pictograms         Work       With and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations/legislation and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations/legislation specific for the substance or mixture effects and environmental regulations.         Work       With Skin.       Hill					
Environmental hazards:       Not applicable.         Special precutions for user       Warning: Toxic substances         Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.       Transport/Additional information:         DOT       Marine Pollutant (DOT):       No         Item:       UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2,4-Difluorophenyl isocyanate), 6.1, III         17 Regulatory information         Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)         Hazard statements       Flammable liquid and vapour.         Hazard statements       Flammable liquid and vapour.         H335       Gauses serious ever imitation.         H335       Gauses serious ever imitation.         H336       Causes serious ever imitation.         H337       Causes serious ever imitation.         H336       Causes serious ever imitation.         H337       Causes serious ever imitation.         H336       Causes serious ever imitation.         H337       Causes seriou					
Environmental hazards:       Not applicable.         Special precutions for user       Warning: Toxic substances         Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.       Transport/Additional information:         DOT       Marine Pollutant (DOT):       No         Item:       UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2,4-Difluorophenyl isocyanate), 6.1, III         17 Regulatory information         Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)         Hazard statements       Flammable liquid and vapour.         Hazard statements       Flammable liquid and vapour.         H335       Gauses serious ever imitation.         H335       Gauses serious ever imitation.         H336       Causes serious ever imitation.         H337       Causes serious ever imitation.         H336       Causes serious ever imitation.         H337       Causes serious ever imitation.         H336       Causes serious ever imitation.         H337       Causes seriou	Packing group DOT. IMDG. IATA	111			
Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code Not applicable.         Transport/Additional information:         DOT Marine Pollutant (DOT):       No         Item:       UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2,4-Difluorophenyl isocyanate), 6.1, III         15 Regulatory information       Safety, health and environmental regulations/legislation specific for the substance or mixture GHS table elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Haard pictograms         Image: Comparison of the substance or mixture GHS table isomets The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Haard pictograms         Image: Comparison of the substance or mixture GHS table isomets The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Haard pictograms         Image: Comparison of the product is classified and vapour. Haard statements Flarmable liquid and vapour. Haard statements Flarmable liquid and vapour. Haard statements Haard Physics Rines eating with water for several minutes. Refereve contact lenses, if present and easy to do. Continue rinsing. Habit Physics II on skin (or hair): Take off immediately all contaminated clothing. Rines skin with water/shower. Pa05+P3318 [In Net/St. Rines eating with water for several minutes. Refereve contact lenses, if present and easy to do. Continue rinsing. P405 Store locked up. P307 Main regulations Maard regulations         Habit Physics Rines eating with water for several minutes. Store locked up. P307 Main regulating and		Not applicable.			
Transport/Additional information:       DOT         DOT       No         Marine Pollutant (DOT):       No         Item:       UN 'Model Regulation':       UN2206, Isocyanates, toxic, n.o.s. (2,4-Diffuorophenyl isocyanate), 6.1, III         UN 'Model Regulation':       UN2206, Isocyanates, toxic, n.o.s. (2,4-Diffuorophenyl isocyanate), 6.1, III         IN Colspan="2">UN 'Model Regulations:         UN 'Model Regulatory information         Safety, health and environmental regulations/legislation specific for the substance or mixture         GH Social Colspan="2">Optimization         WWW         WWW         WWW         WWW         Optimization         GH Social Colspan="2">Colspan="2">Optimization         Marine Pollucitation         Marine Policitation         Marine Policitation         Marine Policitation         Marin Policitation					
DoT       No         Marine Pollutant (DOT):       No         UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2.4-Diffuorophenyl isocyanate), 6.1, III         UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2.4-Diffuorophenyl isocyanate), 6.1, III         15 Regulatory information       Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms <i>Wo Wo Goo Go</i>		le Not applicable.			
Marine Pollutant (DOT):         No           Item:         UN "Model Regulation":         UN2206, Isocyanates, toxic, n.o.s. (2,4-Difluorophenyl isocyanate), 6.1, III           15 Regulatory information         Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Haard pictograms <ul> <li>Mo</li> <li>Generation of the substance or mixture of the substance or mixture</li></ul>	-				
UN "Model Regulation":       UN2206, Isocyanates, toxic, n.o.s. (2,4-Diffuorophenyl isocyanate), 6.1, III         15 Regulatory information       Safety, health and environmental regulations/legislation specific for the substance or mixture         GHS label elements       The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS)         Hazard prictograms       Image: Comparison of the substance or mixture         GHS02 GHS06       Signal word Danger         Hazard statements       Flammable liquid and vapour.         H326       Flammable liquid and vapour.         H336       Causes serious eye irritation.         H316       Causes serious eye irritation.         H317       Causes serious eye irritation.         H318       May cause respiratory irritation.         P2210       Kee paway from heat/sparks/open flames/hot surfaces. No smoking.         P231       Avoid breathing dust/tume/gas/mist/vapours/spry.         P305+P351+P333 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.         P405       Store locked up.         Mational regulation the U.S. Environmental Protection Agency Toxic Substance Control Act Chemical Substance Inventory. Use of this product is restricted to reserral munutes. Remove contact lenses, if present and easy to do. Continue rinsing.         P405       Store locked up.         Mational re	Marine Pollutant (DOT):	No			
Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements. The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms <i>www www www www GHS02</i> GHS06 <i>Signal word</i> Danger Hazard statements <i>H226</i> <i>Flammable liquid</i> and vapour. <i>H302</i> +H312 Harmful if swallowed or in contact with skin. <i>H331</i> <i>Toxic if inhaled. H315</i> <i>Causes skin initation. H316</i> <i>Causes skin initation. H317</i> <i>Causes skin initation. H318</i> <i>Causes skin initation. H315</i> <i>Causes serious eye initation. H316</i> <i>Causes serious eye initation. H317</i> <i>Causes serious eye initation. P210</i> <i>Kreep away from heat/sparks/open flames/hot surfaces. No smoking. P210</i> <i>Kreip away from heat/sparks/open flames/hot surfaces. No smoking. P303+P351+P338 If on skin (or hair): Rod breathing dust/time/gas/mist/vapours/spray. P303+P351+P338 IF IN EVES:</i> </th <th></th> <th>UN2206, Isocyanates, toxic, n.o.s. (2,4-Difluorophenyl isocyanate)</th> <th>, 6.1, III</th>		UN2206, Isocyanates, toxic, n.o.s. (2,4-Difluorophenyl isocyanate)	, 6.1, III		
Hāzard statements         H226       Flammable liquid and vapour.         H302+H312 Harmful if swallowed or in contact with skin.         H331       Toxic if inhaled.         H331       Toxic of inhaled.         H331       Causes skin irritation.         H335       Causes skin irritation.         H336       Causes serious eye irritation.         H337       May cause respiratory irritation.         Precautionary statements       Percounting dust/fume/gas/mist/vapours/spray.         P201       Keep away from heat/sparks/open flames/hot surfaces. No smoking.         P203+P361+P353 IF on skin (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.         P303+P361+P353 IF in Strips cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.         P405       Store locked up.         P501       Dispose of contents/container in accordance with local/regional/national/international regulations.         National regulations       This product is not listed in the U.S. Environmental Protection Agency Toxic Substances Control Act Chemical Substance Inventory. Use of this product is restricted to research and development only. This product must be used by or direcity under the supervision of a technically qualified individual as defined by TSCA. This product must not be used for commercial purposes or in formulations for commercial purposes.         SARA Section 313 (specific toxic chemical li	Safety, health and environmental regulations/legislation specific for the substance or mixture GHS label elements The product is classified and labeled in accordance with 29 CFR 1910 (OSHA HCS) Hazard pictograms				

(Contd. of page 4)

### Product name: 2,4-Difluorophenyl isocyanate

Information about limitation of use: For use only by technically qualified individuals. Other regulations, limitations and prohibitive regulations Substance of Very High Concern (SVHC) according to the REACH Regulations (EC) No. 1907/2006. Substance is not listed. The conditions of restrictions according to Article 67 and Annex XVII of the Regulation (EC) No 1907/2006 (REACH) for the manufacturing, placing on the market and use must be observed.

market and use must be observed. Substance is not listed.

Annex XIV of the REACH Regulations (requiring Authorisation for use) Substance is not listed. Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

### 16 Other information

Employers should use this information only as a supplement to other information gathered by them, and should make independent judgement of suitability of this information to ensure proper use and protect the health and safety of employees. This information is furnished without warranty, and any use of the product not in conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the user. conformance with this Material Safety Data Sheet, or in combination with any other product or process, is the responsibility of the use Department issuing SDS: Global Marketing Department Date of preparation / last revision 11/24/2015 / - Abbreviations and acronyms: ADR: Accord européen sur le transport 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 Transport Association CAS: Chemical Abstrats Service (division of the American Chemical Society) HMIS: Hazardous Materials Identification System (USA) WHMIS: Workplace Hazardous Materials Information System (Canada) LC50: Lethal concentration Agercent LD50: Lethal concentration Agercent LD50: Lethal concentration and very Bioaccumulative ACGIH: American Asters and Health Administration (USA) MTP: National Safety and Health Administration (USA) MTP: National Society for Research on Cancer EPA: Environmental Protection Agency (USA)

USA