### SAFETY DATA SHEET



## AlphaPlus® 1-Hexadecene

#### Version 2.10

Revision Date 2023-01-23

According to Regulation (EC) No. 1907/2006, Regulation (EC) No. 2020/878

### SECTION 1: Identification of the substance/mixture and of the company/undertaking

#### 1.1 Product identifier

#### **Product information**

Product Name	:	AlphaPlus® 1-Hexadecene
Material	:	1128490, 1076762, 1037049, 1037048

#### **EC-No.Registration number**

Chemical name	CAS-No. EC-No. Index No.	Legal Entity Registration number
1-Hexadecene	629-73-2 211-105-8	Chevron Phillips Chemical Company LP 01-2119474686-23-0002

#### 1.2

#### Relevant identified uses of the substance or mixture and uses advised against

Relevant Identified Uses : Supported	Manufacture Use as an intermediate Formulation Use in coatings – industrial Use in coatings – professional Use in Coatings - Consumer Lubricants - Industrial Lubricants - Professional Lubricants - Consumer Use in Oil and Gas field drilling and production operations - Industrial Use in Oil and Gas field drilling and production operations – Professional Metal working fluids / rolling oils - Industrial Metal working fluids / rolling oils – Professional Functional Fluids - Industrial Functional Fluids - Professional Functional Fluids - Consumer Use in polymer production – industrial Use in mining – industrial
1.3 Details of the supplier of the s	afety data sheet
Company :	Chevron Phillips Chemical Company LP Normal Alpha Olefins (NAO) 10001 Six Pines Drive
SDS Number:100000065709	1/44

AlphaPlus® 1-Hexad	Revision Date 2023-01-2 The Woodlands, TX 77380
Local	
	<ul> <li>Chevron Phillips Chemicals International N.V. Airport Plaza (Stockholm Building) Leonardo Da Vincilaan 19 1831 Diegem Belgium</li> </ul>
	SDS Requests: (800) 852-5530 Responsible Party: Product Safety Group Email:sds@cpchem.com
.4 Emergency telephone:	
Asia: CHEMWATCH (- Mexico CHEMTREC 0 South America SOS-C Argentina: +(54)-11598 EUROPE: BIG +32.14 Austria: VIZ +43 1 406 Belgium: 070 245 245 Bulgaria: +359 2 9154 Croatia: +3851 2348 3 Cyprus: 1401 Czech Republic: Toxic Denmark: Danish Pois Estonia: BIG +32.14.56 Finland: 0800 147 111 France: ORFILA numb Germany: BIG +32.14.56 Finland: 0800 147 111 France: (0030) 210779 Hungary: +36-80-201- Iceland: 543 2222 (24 Ireland: BIG +32.14.58 Italy: After Fire and Poisoning and Drug Ir 67042473. (24 hours.) Liechtenstein: BIG +32 Lithuania: +370 (85) 23 Luxembourg: (+352) 8 Malta: +356 2395 2000 The Netherlands: NVIC Norway: 22 59 13 00 (2 Poland: BIG +32.14.58	hational) 9300 or 703.527.3887(int'l) +612 9186 1132) China: 0532 8388 9090 1:800-681-9531 (24 hours) Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600 839431 .584545 (phone) or +32.14583516 (telefax) 6:43 43 (24 hours/day, 7 days/week) (24 hours/day, 7 days/week) 233 42 (24 hours/day, 7 days/week) cological Information Center +420 224 919 293, +420 224 915 402 con Center (Giftlinjen): +45 8212 1212 84545 (phone) or +32.14583516 (telefax) 09 471 977 (24 hours/day) ber (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week) .584545 (phone) or +32.14583516 (telefax) 93777 (24 hours/day, 7 days/week) 199 (24 hours/day, 7 days/week) 199 (24 hours/day, 7 days/week) 84545 (phone) or +32.14583516 (telefax) 45 (phone) or +32.14583516 (telefax) 12.14.584545 (phone) or +32.14583516 (telefax) 362052 002 5500 (24 hours/day, 7 days/week) 0 C: +31 (0)88 755 8000 24 hours/day, 7 days/week) 34545 (phone) or +32.14583516 (telefax) 15 (a)

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	rsion 2.10	CCI		Revision Date 2023-01-23
	Sweden: 112 – ask for Po	oison	s Information	
	Responsible Department E-mail address Website	:	Product Safety a SDS@CPChem www.CPChem.c	
SEC	CTION 2: Hazards identificat	ion		
2.1	Classification of the subst REGULATION (EC) No 127			
	Aspiration hazard, Category	1	H30 May	4: be fatal if swallowed and enters airways.
2.2	Labeling (REGULATION (E	C) N	o 1272/2008)	
	Hazard pictograms	:	<u> </u>	
	Signal Word	:	Danger	
	Hazard Statements	:	H304	May be fatal if swallowed and enters airways.
	Precautionary Statements	:	<b>Response:</b> P301 + P310 P331 <b>Storage:</b> P405 <b>Disposal:</b> P501	IF SWALLOWED: Immediately call a POISON CENTER/ doctor. Do NOT induce vomiting. Store locked up. Dispose of contents/ container to an approved waste disposal plant.
			st be listed on the lecene	ə label:
	Additional Labeling:	the	mixtura concieta	of ingredient(s) with unknown acute toxicity: 1 %
		the	mixture consists	of ingredient(s) with unknown hazards to the
2.3	Other hazards			
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phaPlus® 1-Hexa	decene		0,	AFETY DATA SHE
sion 2.10			Revis	sion Date 2023-01
Results of PBT and vP assessment	vB :	This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.		
CTION 3: Composition/i	nformation on	ingredients		
- 3.2				
ostance or Mixture	NAG	10		
Synonyms		16 xadecene H32)		
Molecular formula	: C16H	132		
Hazardous ingredients	6			
Chemical name	CAS-No. EC-No. Index No.	Classification (REGULATION (EC) No 1272/2008)	Concentration [wt%]	Specific Conc. Limits, M-factors and ATEs
1-Hexadecene	629-73-2 211-105-8	Asp. Tox. 1; H304	93	
2-Butyl-1-Dodecene	115146-98-0	Asp. Tox. 1; H304	2	
2-Ethyl-1-Tetradecene	56919-55-2	Asp. Tox. 1; H304	2	
2-Hexyl-1-Decene	13043-55-5	Asp. Tox. 1; H304	2	
For the full text of the H	-Statements me	entioned in this Section,	see Section 16.	
CTION 4: First aid meas	ures			
Description of first-aid	l measures			
General advice	shee appe	e out of dangerous area. t to the doctor in attenda ar several hours later. D ended.	nce. Symptoms	of poisoning may
If inhaled		conscious, place in recov e. If symptoms persist, o		seek medical
In case of skin contact		n irritation persists, call a water. If on clothes, rem		skin, rinse well
In case of eye contact	lense	eyes with water as a pros. Protect unharmed ey g. If eye irritation persis	e. Keep eye wid	le open while
If swallowed	give	respiratory tract clear. I anything by mouth to an toms persist, call a phys	unconscious per	son. If

Alp	ohaPlus® 1-Hexadeo	cei	SAFETY DATA SHEE
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			hospital. Do not ingest. If swallowed then seek immediate medical assistance.
.2	Most important symptoms a Notes to physician	and	effects, both acute and delayed
	Symptoms	:	No data available.
1.3	Risks Indication of any immediate	: e m	No data available. edical attention and special treatment needed
	Treatment	:	No data available.
SEC	CTION 5: Firefighting measu	res	
	Flash point	:	132°C (270°F) Method: PMCC
	Autoignition temperature	:	240°C (464°F)
5.1	Extinguishing media		
	Unsuitable extinguishing media	:	High volume water jet.
5.2	Special hazards arising fro Specific hazards during fire fighting		
5.3	Advice for firefighters Special protective equipment for fire-fighters	:	Wear self-contained breathing apparatus for firefighting if necessary.
	Further information	:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
	Fire and explosion protection	:	Normal measures for preventive fire protection.
	Hazardous decomposition products	:	No data available.
SEC	CTION 6: Accidental release	me	asures
6.1	Personal precautions, prot	ect	ive equipment and emergency procedures
	Personal precautions	:	Use personal protective equipment. Ensure adequate ventilation.
6.2	Environmental precautions	5	
	Environmental precautions	:	Prevent product from entering drains. Prevent further leakage
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vei	51011 2.10			Kev	/ISIOIT Date 2023-01-2
				o so. If the product cor form respective authori	
6.3	Methods and materials fo Methods for cleaning up			<b>g up</b> sorbent material (e.g. s	and silica del acid
	Methods for cleaning up	binder,		er, sawdust). Keep in	
6.4			·		
	Reference to other sectio	ns			
	Reference to other sections	consid	erations see se		isposal
	A quantitative risk assessm A quantitative risk assessm				
SEC	CTION 7: Handling and stor	rage			
7.1					
	Precautions for safe hand Handling	lling			
	Advice on safe handling	see se prohibi accord Do not sectior in the a	ction 8. Smoki ted in the appli ance with local breathe vapors 8. Smoking, e	s or spray mist. For pe ng, eating and drinking cation area. Dispose of and national regulation s/dust. For personal pr eating and drinking sho a. Dispose of rinse wat I regulations.	should be of rinse water in ns. rotection see uld be prohibited
	Advice on protection against fire and explosion	: Norma	l measures for	preventive fire protection	on.
7.2	Conditions for safe storage	ge, including	g any incompa	tibilities	
	Storage				
	Requirements for storage areas and containers	Observ	ve label precau	closed in a dry and we tions. Electrical installa with the technologica	ations / working
SEC	CTION 8: Exposure control	s/personal p	rotection		
8.1	Control parameters				
SE	Ingredients with workplac	e control pa	irameters		
	ståndsdelar	Grundval	Värde	Kontrollparametra	r Anmärkning
-	lexadecene	SE AFS	NGV	350 mg/m3	
	Butyl-1-Dodecene	SE AFS	KGV NGV	500 mg/m3	V,
0 5	Butyl-1-Dodecene	SE AFS SE AFS	KGV	350 mg/m3 500 mg/m3	V,
2-B	V Vägladanda korttidagrängvi			erat högsta värde som inte bör öv	
2-E					
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1-Hexadecene       158-2011-12-06- 1358       GV       40 ppm, 275 mg/m3         2-Butyl-1-Dodecene       FOR-2011-12-06- 1358       GV       40 ppm, 275 mg/m3         1-T       Komponentai       Saltinis       Verte       Kontroles parametrai       Pastaba         1-Hexadecene       LT OEL       IPRD       350 mg/m3       Image: Control of the second		Cruppler	Vordi	Kontrollogram	Noto
114Baadcone       1383       GV       40 ppin, 27 mg/md         2Buryl-1Dodecome       1008,2011-206       GV       40 ppin, 275 mg/md         1       Statinins       Verte       Kontroles parametral       Pastaba         1-Hoadecome       LT OEL       IPRD       800 mg/m3		Grunnlag FOR-2011-12-06-	Verdi	Kontrollparametrer	Nota
Zerusyn-i roddictania       (so')       a tym, Zerusyn-         T       T       Topological       Topologica		1358			
Komponental         Saltinis         Verte         Kontroles parametral         Pasiaba           1-Hexadecene         LT OEL         IPRD         350 mg/m3         Image: Sol mg/m3	2-Butyl-1-Dodecene		GV	40 ppm, 275 mg/m3	
1-Hexadecene         LT OEL         IPRD         300 mgm3           2-Buly(1-Dodecene         LT OEL         IPRD         300 mgm3           2-Buly(1-Dodecene         LT OEL         IPRD         300 mgm3           E         Komponendid, osad         Aused         Väärtus         Kontrolliparameetrid         Märkused           1-Hexadecene         EE OEL         Pinnorm         500 mgm3         11.           EE OEL         Pinnorm         5 mgm3         Aerosool           1-EE OEL         Pinnorm         5 mgm3         Aerosool           1         EE OEL         Pinnorm         5 mgm3         Aerosool           2-Buly(1-Dodecene	LT	¥			[ <b>-</b> · · ·
Price         Stor organisa           2-Bulyl-1-Dodecene         LT OEL         IPRD         350 mg/m3           EE         Komponendid, osad         Alused         Väärus         Kontrolliparameetrid         Märkused           1-Hexadecene         EE OEL         Väärus         Kontrolliparameetrid         Märkused           1-Hexadecene         EE OEL         Väinom         500 mg/m3         11.           EE OEL         Pinnom         5 mg/m3         Aerosol           EE OEL         Pinnom         5 mg/m3         Aerosol           EE OEL         Pinnom         5 mg/m3         Aerosol           EE OEL         Pinnom         500 mg/m3         11.           EE OEL         Pinnom         500 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pinnom         500 mg/m3         Aur					Pastaba
2:Butyl-1-Dodeceme       IT OEL       IPPD       350 mg/m3       Implementation         EE       Komporendid, osad       Alused       Väärus       Kontrolliparameetrid       Märkused         1:Hexadecene       EE OEL       Parnorm       500 mg/m3       11.         I:Hexadecene       EE OEL       Parnorm       500 mg/m3       11.         I:Hexadecene       EE OEL       Parnorm       500 mg/m3       Aur         I:E OEL       Parnorm       500 mg/m3       Aur         I:E OEL       Parnorm       500 mg/m3       Aur         2:Butyl-1:Dodecene       EE OEL       Parnorm       500 mg/m3       Aur         2:Butyl-1:Dodecene       EE OEL       Litragate       500 mg/m3       Aur         2:Butyl-1:Dodecene       EE OEL       Litragate       500 mg/m3       Aur         2:Butyl-1:Dodecene       EE OEL       Parnorm       500 mg/m3       Aur         2:Butyl-1:Dodecene       EE OEL       Parnorm <td>1-Hexadecene</td> <td></td> <td></td> <td></td> <td></td>	1-Hexadecene				
EE         LT OEL         TPRD         500 mg/m3         E           EE         Komponendid, osad         Alused         Väärus         Kontrolliparameetrid         Märkused           1-Hexadecene         EE OEL         Lirnagatise         Sio mg/m3         11.           EE OEL         Lirnagatise         Finantian         Auroadi           EE OEL         Princim         5 mg/m3         Auroadi           EE OEL         Princim         350 mg/m3         Aur           EE OEL         Princim         500 mg/m3         Aur           2:Butyk1-Dodecene         EE OEL         Lirnagatise         500 mg/m3         Aur           <	2-Butyl-1-Dodecene				
Komponendid, osad         Alused         Väärtus         Kontrollparameetrid         Markused           1-Hexadecene         EE OEL         Pilnorm         350 mg/m3         11,           1         EE OEL         kukkupute pilnorm         500 mg/m3         11,           1         EE OEL         Pilnorm         5 mg/m3         Aerosool           1         EE OEL         Pilnorm         360 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pilnorm         350 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pilnorm         350 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pilnorm         500 mg/m3         Aur           2-Dodecene         EE OEL         Pilnoror <td< td=""><td>2-Bulyi-1-Douecene</td><td></td><td></td><td></td><td></td></td<>	2-Bulyi-1-Douecene				
Komponendid, osad         Alused         Väärtus         Kontrollparameetrid         Markused           1-Hexadecene         EE OEL         Pilnorm         350 mg/m3         11,           1         EE OEL         kukkupute pilnorm         500 mg/m3         11,           1         EE OEL         Pilnorm         5 mg/m3         Aerosool           1         EE OEL         Pilnorm         360 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pilnorm         350 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pilnorm         350 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pilnorm         500 mg/m3         Aur           2-Dodecene         EE OEL         Pilnoror <td< td=""><td>==</td><td></td><td></td><td></td><td></td></td<>	==				
1-Hexadecene         EE OEL         Pinnorm         350 mg/m3         11,           EE OEL         Pinnorm         500 mg/m3         11,           EE OEL         Pinnorm         5 mg/m3         Arreaced           EE OEL         Pinnorm         5 mg/m3         Aur           EE OEL         Pinnorm         5 mg/m3         Aur           EE OEL         Pinnorm         500 mg/m3         Aur           2:Butyl-1-Dodecene         EE OEL         Pinnorm         500 mg/m3         Aur           EE OEL         Pinnorm         500 mg/m3         Aur         Aur           EE OEL         Pinnorm         5 mg/m3         Arreaced         EE           EE OEL         Pinnorm         5 mg/m3         Aur         Aur           EE OEL         Pinnorm         5 mg/m3         Aur         Aur           EE OEL         Pinnorm         5 mg/m3         Aur         Aur           EE OEL         Pinnorm         3 sto mg/m3         Aur         Aur           EE OEL         Pinnorm         5 mg/m3         Aur         Aur           Aur         EE OEL         Pinnorm         3 sto mg/m3         Aur           EE OEL         Valus: 2 usinkuaatonga atita		Alused	Väärtus	Kontrolliparameetrid	Märkused
Et OEL         kokkýpute pirnom         900 mg/m3         11.           EE OEL         Pirnorm         5 mg/m3         Aerosoui           EE OEL         Pirnorm         5 mg/m3         Aerosoui           2-Butyl-1-Dodecene         EE OEL         Pirnorm         360 mg/m3         Aur           EE OEL         Pirnorm         360 mg/m3         Aur         Aur           0         EE OEL         Pirnorm         360 mg/m3         Aur           0         EE OEL         Pirnorm         360 mg/m3         Aur           0         EE OEL         Pirnorm         360 mg/m3         Aur           0         narvisubalaselia         Valuaselia         500 mg/m3         Aur           0         Davis         Aur         Valuaselia         200 mg/m3         Aur           1         Statistastastastastastastastastastastastastas					
EE OEL         Pointonia prinorm         5 mg/m3         Amrosoid           EE OEL         Prinorm         5 mg/m3         Aur           EE OEL         Prinorm         500 mg/m3         Aur           EE OEL         Prinorm         500 mg/m3         Aur           2:Butyl-1-Dodecene         EE OEL         Prinorm         500 mg/m3         11.           EE OEL         Virinorm         500 mg/m3         11.         11.           EE OEL         Prinorm         5 mg/m3         Aur           Image of the optimization of the optimization optimal of the optimal optim		EE OEL		500 ma/m3	11.
EE OEL         Prinorm         Strights         Aerosool           EE OEL         EE OEL         Lühisjälse         500 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Prinorm         350 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Prinorm         500 mg/m3         11.           EE OEL         Prinorm         5 mg/m3         Aur           EE OEL         Prinorm         5 mg/m3         Aur           EE OEL         Prinorm         5 mg/m3         Aur           EE OEL         Prinorm         5 00 mg/m3         Aur           Image: Statistical prinorm         5 00 mg/m3         Aur				~	,
EE OEL         LUtivaliate kokkupute pilmorm         600 mg/m3         Aur           2-Butyl-1-Dodecene         EE OEL         Pilmorm         350 mg/m3         11.           EE OEL         EE OEL         Pilmorm         500 mg/m3         11.           EE OEL         Pilmorm         500 mg/m3         Aur           EE OEL         Pilmorm         500 mg/m3         Aur           Image: Interventional construction of the operation operation of the operation op					Aerosool
EE OEL         kokkupute pilmorm         Sol migm3         11.           2-Butyl-1-Dodecene         EE OEL         Pilmorm         350 mg/m3         11.           EE OEL         EE OEL         Pilmorm         500 mg/m3         11.           EE OEL         Pilmorm         6 mg/m3         Aar           EE OEL         Pilmorm         8 mg/m3         Aar           EE OEL         Pilmorm         360 mg/m3         Aur           EE OEL         Pilmorm         360 mg/m3         Aur           Image: State Stat					Aur
2-Butyl-1-Dodecene         EE OEL         Pirrorm         350 mg/m3         11.           EE OEL         Lühigallise         500 mg/m3         11.           EE OEL         Pilmorm         5 mg/m3         Aerosol           EE OEL         Pilmorm         5 mg/m3         Aur           Lühigallise         500 mg/m3         Aur           EE OEL         Pilmorm         360 mg/m3         Aur           11         Süsivesinike pilmormid on arvutatud auru fassile. Ula 12 süsinkuaatomiga alifaatsetel süsivesinikel (tidekaand ja kõrgemad) on 20 °C juures kültastussisaldus < 350 mg/m3. Aerosoolsete süsivesinike pilmorm on 5 mg/m3.		EE OEL		500 mg/m3	Aur
EE OEL       Lühajallise hokkupute piinorm       500 mg/m3       11.         EE OEL       Piinorm       5 mg/m3       Aeroaool         EE OEL       Piinorm       5 mg/m3       Aur         LÜhajallise EE OEL       Diinorm       500 mg/m3       Aur         11       Süstvesinike piinormid on avvutatud auvu tassit kokkupuute piinormi on 5 mg/m3       Aur         11       Süstvesinike piinormid on avvutatud auvu tassit kokkupuute piinorm on 5 mg/m3.       Aur         20 *C juures küllastussisaldus < 350 mg/m3. Aerosoolsete süstvesinike piinorm on 5 mg/m3.	2-Butyl-1-Dodecene	FE OFI	- · · ·	350 mg/m3	11
Let OEL         bolkinguite pilmorm         Southgrins         11.           IEE OEL         Plinnorm         5 mg/m3         Aerosool           IEE OEL         Delinorm         500 mg/m3         Aur           IEE OEL         Lühigalleise kokkupute pilmorm         500 mg/m3         Aur           11         Süsivesinike pilmormid on arvutaud auvi tasalle. Ule 12 süsinkuaatomiga alfaatsetel süsivesinikel (tridekaanid ja kõrgemad) on 20 °C juures küllastussisaldus < 350 mg/m3. Aerosoolsete süsivesinike pilmorm on 5 mg/m3.				Ŭ	
EE OFL         Plinom         5 mg/m3         Average           EE OFL         EE OFL         Lühijalles         500 mg/m3         Avr           11         Südevesinke piirnormid on arvutatud auru faasile. Ule 12 süsinkluuatomiga alfaatsetel süsvesinikel (tridekaanid ja kõrgemad) on 20 °C juures küllastussisaldus < 360 mg/m3. Aerosoolsete süsivesinike piirnorm on 5 mg/m3.			kokkupuute piirnorm	Ū.	11,
EE OEL         Pinnorm         350 mg/m3         Aur           11         Sidevesinke pilmormid on arvuratud avur fasali. Unitajilite kokkupuute pilmorm on 5 mg/m3.         Aur           11         Sidevesinke pilmormid on arvuratud avur fasali. Unit 2 diskubusateli stativesinikel (tridekaanid ja körgemad) on 20 °C juures küllastussisaldus < 350 mg/m3.					Aeroscol
EE OEL         Utilization         500 mg/m3         Aur           11         Stativesinike pilmormid on arvitatud auru faasile. Uhe 12 statinikuaatomiga alfaatsetel stativesinikel (indekaanid ja kõrgemad) on 20 °C juures küllastussisaldus < 360 mg/m3. Aerosoolsete süsivesinike pilmorm on 5 mg/m3.           PNEC         :         Fresh water Value: 0,001 mg/l           PNEC         :         Sea water Value: 0,001 mg/l           PNEC         :         Sea water Value: 426,58 mg/kg           PNEC         :         Sea sediment Value: 426,58 mg/kg           PNEC         :         Sea sediment Value: 85,3 mg/kg           PNEC         :         Soil           Zalue:         8,3 mg/kg           PNEC         :           Soil         Value: 85,3 mg/kg           PNEC         :           Soil         Value: 85,3 mg/kg           Status:         :           Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selectin personal protective equipment. If engineering controls or work practices are not adequate to prever exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since					
11       Susivesinike pirnomid on arvutatud auru fasile. Ule 12 situkusatomig alfaatsetel süsivesinikel (tridekaanid ja kõrgemad) on 20°C juures küllastusisaidus < 350 mg/m3. Aerosoolsete süsivesinike pirnom on 5 mg/m3.			Lühiajalise	-	
20 °C juures küllastussisaldus < 350 mg/m3. Aerosoolsete süsivesinike piirnorm on 5 mg/m3.	11 Qüakçaşinika nike -			5	
Value: 0,001 mg/l         PNEC       :       Fresh water sediment Value: 426,58 mg/kg         PNEC       :       Sea sediment Value: 426,58 mg/kg         PNEC       :       Soil Value: 426,58 mg/kg         PNEC       :       Soil Value: 85,3 mg/kg         Soil Value: 85,3 mg/kg         Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selectin personal protective equipment. If engineering controls or work practices are not adequate to prever exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.         Personal protective equipment         Respiratory protection       :       If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under		Value: (	0,001 mg/l		
Value: 426,58 mg/kg         PNEC       :       Sea sediment Value: 426,58 mg/kg         PNEC       :       Soil Value: 85,3 mg/kg         8.2       Exposure controls Engineering measures         Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selectin personal protective equipment. If engineering controls or work practices are not adequate to prever exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.         Personal protective equipment       If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under	PNEC		-		
Value: 426,58 mg/kg         PNEC       : Soil Value: 85,3 mg/kg         8.2         Exposure controls Engineering measures         Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selectin personal protective equipment. If engineering controls or work practices are not adequate to prever exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.         Personal protective equipment       If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under	PNEC				
8.2         Exposure controls Engineering measures         Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selectin personal protective equipment. If engineering controls or work practices are not adequate to prever exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.         Personal protective equipment       If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under	PNEC				
Exposure controls         Engineering measures         Adequate ventilation to control airborned concentrations below the exposure guidelines/limits. Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selectin personal protective equipment. If engineering controls or work practices are not adequate to prever exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances.         Personal protective equipment       If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under	PNEC		35,3 mg/kg		
Consider the potential hazards of this material (see Section 2), applicable exposure limits, job activities, and other substances in the work place when designing engineering controls and selectin personal protective equipment. If engineering controls or work practices are not adequate to prever exposure to harmful levels of this material, the personal protective equipment listed below is recommended. The user should read and understand all instructions and limitations supplied with the equipment since protection is usually provided for a limited time or under certain circumstances. <b>Personal protective equipment</b> Respiratory protection : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under		s			
Respiratory protection : If ventilation or other engineering controls are not adequate to maintain minimal oxygen content of 19.5% by volume under	Consider the potential I activities, and other sub personal protective equ exposure to harmful lev recommended. The us the equipment since pro	hazards of this mate ostances in the work upment. If engineerivels of this material, ser should read and u otection is usually pr	rial (see Section 2) place when desig ing controls or wor the personal prote understand all insti	), applicable exposur ning engineering con k practices are not a ctive equipment lister ructions and limitation	e limits, job trols and selectin dequate to prever d below is ns supplied with
maintain minimal oxygen content of 19.5% by volume under	Personal protective e				
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	Respiratory protection			ntent of 19.5% by vo	lume under

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phaPlus® 1-Hexade sion 2.10	Revision Date 2023-0	1-
	normal atmospheric pressure, a supplied-air NIOSH approved respirator may be appropriate. If exposure to harmful levels of airborne material may occur, a NIOSH approved respirator tha provides protection may be appropriate, such as:. Air-Purifying Respirator for Dusts and Mists / P100. A positive pressure, air supplying respirator may be appropriate if there is potential for uncontrolled release, aerosolization, exposure levels are not known, or other circumstances where air-purifying respirators may not provide adequate protection.	t 9
Hand protection	: The suitability for a specific workplace should be discussed with the producers of the protective gloves. Please observe the instructions regarding permeability and breakthrough time which are provided by the supplier of the gloves. Also take into consideration the specific local conditions under which the product is used, such as the danger of cuts, abrasion, and the contact time. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. If repeated and/or prolonged skin exposure to the substance is likely, then wear suitable gloves tested to EN374 and provide employee skin care programmes.	Ð
Eye protection	: Eye wash bottle with pure water. Tightly fitting safety goggles.	
Skin and body protection	: Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. Wear as appropriate:. Lightweight protective clothing.	9
Hygiene measures	: When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.	
	ent is not required for the environment. Ent is not required for human health.	
CTION 9: Physical and chei	ical properties	
Information on basic phy	ical and chemical properties	
Appearance	• •	
Physical state Color	: liquid : Clear, colorless	
Safety data		
Flash point	: 132°C (270°F) Method: PMCC	
Lower explosion limit	: 0,5 %(V)	
Upper explosion limit	: 5,8 %(V)	
Oxidizing properties	: no	
Autoignition temperature	: 240°C (464°F)	
Molecular formula	: C16H32	

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Molecular weight	: 224,48 g/mol
рН	: Not applicable
Melting point/range	: 4°C (39°F)
Freezing point	4°C (39°F)
Pour point	No data available
Boiling point/boiling range	: 285°C (545°F)
Vapor pressure	: 0,00 MMHG at 25°C (77°F)
	< 0,01 kPa at  65°C (149°F)
Relative density	: 0,78 at 15,6 °C (60,1 °F)
Density	: 785 kg/m3 at 15°C (59°F)
	780 kg/m3 at 20°C (68°F)
	760 kg/m3 at 50°C (122°F)
Water solubility	: Soluble in hydrocarbons; insoluble in water
Partition coefficient: n- octanol/water	: No data available
Viscosity, kinematic	: 3,83 cSt at 20°C (68°F)
Relative vapor density	: 7,72 (Air = 1.0)
Evaporation rate	: No data available
CTION 10: Stability and react	ivity
1	

10.2

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Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
0.3	
Possibility of hazardous re	actions
Hazardous reactions	: Hazardous reactions: Hazardous polymerization does not occur.
	Further information: No decomposition if stored and applied as directed.
0.4 Conditions to avoid	: No data available.
I0.5 Materials to avoid	: May react with oxygen and strong oxidizing agents, such as chlorates, nitrates, peroxides, etc.
10.6 Hazardous decomposition products	: No data available
Other data	: No decomposition if stored and applied as directed.
SECTION 11: Toxicological info	rmation
11.1 Information on toxicologica	al effects
Acute oral toxicity	
1-Hexadecene	: LD50: 10 g/kg Species: Rat Sex: male and female Method: OECD Test Guideline 401 Test substance: yes
Acute inhalation toxicity	
1-Hexadecene	: LC50: > 8.5 mg/IExposure time: 1 h Species: Rat Sex: male
	Test atmosphere: dust/mist
Acute dermal toxicitv	Test atmosphere: dust/mist
<b>Acute dermal toxicity</b> 1-Hexadecene	<ul> <li>Test atmosphere: dust/mist</li> <li>LD50: &gt; 2020 mg/kg Species: Rabbit Sex: male and female Information given is based on data obtained from similar substances.</li> </ul>
-	: LD50: > 2020 mg/kg Species: Rabbit Sex: male and female Information given is based on data obtained from similar

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IphaPlus® 1-Hexade	
ersion 2.10	Revision Date 2023-01-23
1-Hexadecene	: Mild skin irritation Repeated or prolonged contact with the mixture may cause removal of natural fat from the skin resulting in desiccation of the skin.
Eye irritation 1-Hexadecene	: No eye irritation
Sensitization	
1-Hexadecene	: Did not cause sensitization on laboratory animals.
Repeated dose toxicity	
1-Hexadecene	<ul> <li>Species: Rat, Male and female Sex: Male and female Application Route: oral gavage Dose: 100, 500, or 1000 mg/kg/day Exposure time: 42- 51 days Number of exposures: Daily NOEL: 1000 mg/kg bw/day Method: OECD Guideline 422 Information given is based on data obtained from similar substances.</li> </ul>

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	Species: Rat, male Sex: male Application Route: oral gavage Dose: 10, 101, 1010, 3365 mg/kg/day Exposure time: 4 weeks Number of exposures: 7 days/week NOEL: 101 mg/kg bw/day Method: OECD Test Guideline 407 Target Organs: Stomach Information given is based on data obtained from similar substances.
	Species: Rat, female Sex: female Application Route: oral gavage Dose: 10, 101, 1010, 3365 mg/kg/day Exposure time: 4 weeks Number of exposures: 7 days/week NOEL: 1010 mg/kg bw/day Method: OECD Test Guideline 407 Information given is based on data obtained from similar substances.
	Species: Rat, Male and female Sex: Male and female Application Route: oral gavage Dose: 100, 500, 1000 mg/kg/day Exposure time: 13 weeks Number of exposures: 7 days/week NOEL: 1000 mg/kg bw/day Information given is based on data obtained from similar substances.
	Species: Rat, Male and female Sex: Male and female Application Route: Inhalation Dose: 300, 1000, 3000 ppm Exposure time: 13 weeks Number of exposures: 6 hrs/day, 5 days/week NOEL: 3000 ppm Information given is based on data obtained from similar substances.
Genotoxicity in vitro	Test Type: Ames test
	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative

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AlphaPlus® I-nexadece	
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	Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative
	Test Type: Mammalian cell gene mutation assay Metabolic activation: with and without metabolic activation Result: negative
	Test Type: Mammalian cell gene mutation assay Metabolic activation: with and without metabolic activation Method: OECD Guideline 476 Result: negative
	Test Type: Chromosome aberration test in vitro Result: negative
	Test Type: Chromosome aberration test in vitro Result: negative
Genotoxicity in vivo	
1-Hexadecene	: Test Type: Micronucleus test Species: Mouse Dose: 1,000, 10,000, 25,000 ppm Result: negative
Reproductive toxicity	
1-Hexadecene	<ul> <li>Species: Rat Sex: female Application Route: oral gavage Dose: 100, 500, 1000 mg/kg/day Number of exposures: Daily Test period: 41 to 55 days Method: OECD Guideline 421 NOAEL Parent: 1000 mg/kg bw/day NOAEL F1: 1000 mg/kg bw/day Information given is based on data obtained from similar substances.</li> </ul>
	Species: Rat Sex: male and female Application Route: oral gavage Dose: 100, 500, 1000 mg/kg/day Number of exposures: Daily Test period: 42- 51days Method: OECD Guideline 422 NOAEL Parent: 1000 mg/kg bwday NOAEL F1: 1000 mg/kg bw/day Information given is based on data obtained from similar substances.
AlphaPlus® 1-Hexadecene Aspiration toxicity	: May be fatal if swallowed and enters airways. Substances known to cause human aspiration toxicity hazards or to be regarded as if they cause human aspiration toxicity hazard.

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AlphaPlus® 1-Hexade	SAFETY DATA SHEET
- /ersion 2.10	Revision Date 2023-01-2
CMR effects	
1-Hexadecene	<ul> <li>Carcinogenicity: Not classifiable as a human carcinogen. Mutagenicity: Did not show mutagenic effects in animal experiments. Teratogenicity: Did not show teratogenic effects in animal experiments.</li> </ul>
	Reproductive toxicity: No toxicity to reproduction
1.2 Information on other hazar	rds
AlphaPlus® 1-Hexadecene Further information Endocrine disrupting properties	<ul> <li>Solvents may degrease the skin.</li> <li>The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.</li> </ul>
ECTION 12: Ecological inform	ation
2.1	
Toxicity	
Toxicity to fish	
1-Hexadecene	<ul> <li>LL50: &gt; 1000 mg/L Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) Method: OECD Test Guideline 203 The product has low solubility in the test medium. An aqueous dispersion was tested.</li> </ul>
Toxicity to daphnia and oth	her aquatic invertebrates
1-Hexadecene	<ul> <li>EL50: &lt; 1000 mg/L</li> <li>Exposure time: 48 h</li> <li>Species: Daphnia magna (Water flea)</li> <li>static test Method: OECD Test Guideline 202</li> <li>The product has low solubility in the test medium. An aqueous dispersion was tested.</li> </ul>
Toxicity to algae	
1-Hexadecene	: EC50: > 1000 mg/L Exposure time: 72 h Species: Selenastrum capricornutum (algae) static test Method: OECD Test Guideline 201 The product has low solubility in the test medium. An aqueous dispersion was tested.
2.2 Persistence and degradab	ility

AlphaPlus® 1-Hexadec	SAFETY DATA SHEET
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Biodegradability	
1-Hexadecene	: According to the results of tests of biodegradability this product is considered as being readily biodegradable.
12.3 Bioaccumulative potential	
Bioaccumulation	
1-Hexadecene	: Due to the distribution coefficient n-octanol/water, accumulation in organisms is possible.
12.4 Mobility in soil	
Mobility	
1-Hexadecene	: No data available
12.5	
<b>Results of PBT and vPvB as</b> Results of PBT assessment	<ul> <li>sessment</li> <li>This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.</li> </ul>
12.6 Endocrine disrupting prope	rties
Endocrine disrupting properties	<ul> <li>The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.</li> </ul>
12.7 Other adverse effects	
Additional ecological information	: This material is not expected to be harmful to aquatic organisms.
12.8 Additional Information	
Ecotoxicology Assessment	
Short-term (acute) aquatic hazard	: No toxicity at the limit of solubility.
Long-term (chronic) aquatic ha 1-Hexadecene	<ul> <li>azard</li> <li>This material is not expected to be harmful to aquatic organisms.</li> </ul>
SECTION 13: Disposal considera	tions
13.1 Waste treatment methods	
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The information in this SDS pertains only to the product as shipped.

Use material for its intended purpose or recycle if possible. This material, if it must be discarded, may meet the criteria of a hazardous waste as defined by US EPA under RCRA (40 CFR 261) or other State and local regulations. Measurement of certain physical properties and analysis for regulated components may be necessary to make a correct determination. If this material is classified as a hazardous waste, federal law requires disposal at a licensed hazardous waste disposal facility.

Product :	Do not dispose of waste into sewer. Do not contaminate ponds, waterways or ditches with chemical or used container. Send to a licensed waste management company.	
	First sector River Area for a sector back	

Contaminated packaging : Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.

A quantitative risk assessment is not required for the environment. A quantitative risk assessment is not required for human health.

#### **SECTION 14: Transport information**

#### 14.1 - 14.7

#### **Transport information**

The shipping descriptions shown here are for bulk shipments only, and may not apply to shipments in non-bulk packages (see regulatory definition).

Consult the appropriate domestic or international mode-specific and quantity-specific Dangerous Goods Regulations for additional shipping description requirements (e.g., technical name or names, etc.) Therefore, the information shown here, may not always agree with the bill of lading shipping description for the material. Flashpoints for the material may vary slightly between the SDS and the bill of lading.

#### US DOT (UNITED STATES DEPARTMENT OF TRANSPORTATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

#### IMO / IMDG (INTERNATIONAL MARITIME DANGEROUS GOODS)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

#### IATA (INTERNATIONAL AIR TRANSPORT ASSOCIATION)

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

#### ADR (AGREEMENT ON DANGEROUS GOODS BY ROAD (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

# RID (REGULATIONS CONCERNING THE INTERNATIONAL TRANSPORT OF DANGEROUS GOODS (EUROPE))

NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY.

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SAFETY DATA SHEET

#### AlphaPlus® 1-Hexadecene Version 2.10 Revision Date 2023-01-23 ADN (EUROPEAN AGREEMENT CONCERNING THE INTERNATIONAL CARRIAGE OF DANGEROUS GOODS BY INLAND WATERWAYS) NOT REGULATED AS A HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR TRANSPORTATION BY THIS AGENCY. Other information : OLEFINS (C13 +, all isomers), S.T. 2, Cat.Y Maritime transport in bulk according to IMO instruments **SECTION 15: Regulatory information** 15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture National legislation Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH) Water hazard class : WGK 1 slightly water endangering (Germany) 15.2 **Chemical Safety Assessment** Components : hexadec-1-ene A Chemical Safety Assessment 211-105-8 has been carried out for this substance. Major Accident Hazard Update: 2003 : 96/82/EC Legislation Directive 96/82/EC does not apply Notification status Europe REACH This product is in full compliance according to REACH regulation 1907/2006/EC. Switzerland CH INV On the inventory, or in compliance with the inventory On or in compliance with the active portion of the United States of America (USA) TSCA **TSCA** inventory Canada DSL On the inventory, or in compliance with the inventory Australia AIIC On the inventory, or in compliance with the inventory New Zealand NZIoC On the inventory, or in compliance with the inventory 1 On the inventory, or in compliance with the inventory Japan ENCS 1 A substance(s) in this product was not registered, Korea KECI notified to be registered, or exempted from registration by CPChem according to K-REACH regulations. Importation or manufacture of this product is still permitted provided the Korean Importer of Record has themselves notified the substance or the exported amount does not exceed the minimum threshold quantity of the non-registered substance(s). Philippines PICCS On the inventory, or in compliance with the inventory SDS Number:10000065709 17/44

narius®	) 1-Hexadecene		
on 2.10			Revision Date 2023-0
Taiwan TCS China IECS			in compliance with the inventory in compliance with the inventory
ION 16: Otl	her information		
NFPA Class	ification : Health Hazard: Fire Hazard: 1 Reactivity Haza		1
Further info	rmation		
_egacy SDS	Number : PE0021		
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guidance for not to be con specific mate other materia	and belief at the date of its publicatio safe handling, use, processing, stor nsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie	n. The inform age, transpor cation. The in d for such ma d in the text.	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet
guidance for not to be con specific mate other materia k ACGIH	and belief at the date of its publicatio safe handling, use, processing, stor hsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie Key or legend to abbreviations and a American Conference of Government Industrial Hygienists	n. The informage, transpor cation. The in d for such ma ed in the text.	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50%
guidance for not to be con specific mate other materia k ACGIH AIIC	and belief at the date of its publicatio safe handling, use, processing, stor nsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie Key or legend to abbreviations and a American Conference of Government Industrial Hygienists Australian Inventory of Industrial Chemicals	n. The informage, transpor cation. The in d for such ma ed in the text.	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50% Lowest Observed Adverse Effec Level
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yuidance for not to be con specific materia ther materia ACGIH AIIC DSL NDSL	and belief at the date of its publicatio safe handling, use, processing, stor hsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie <u>Key or legend to abbreviations and a</u> <u>American Conference of Government Industrial Hygienists</u> <u>Australian Inventory of Industrial Chemicals</u> <u>Canada, Domestic Substances List</u> <u>Canada, Non-Domestic Substances List</u>	n. The informage, transpor cation. The in d for such ma ed in the text. CONTROM LD50 LOAEL NFPA NIOSH	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50% Lowest Observed Adverse Effec Level National Fire Protection Agency National Institute for Occupation Safety & Health National Toxicology Program New Zealand Inventory of
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auidance for not to be con specific materia ther materia ACGIH AIIC DSL NDSL CNS CAS EC50	and belief at the date of its publicatio safe handling, use, processing, stor nsidered a warranty or quality specifi erial designated and may not be value als or in any process, unless specifie <u>Key or legend to abbreviations and a</u> <u>American Conference of Government Industrial Hygienists</u> <u>Australian Inventory of Industrial Chemicals</u> <u>Canada, Domestic Substances List</u> <u>Canada, Non-Domestic Substances List</u> <u>Central Nervous System</u> <u>Chemical Abstract Service</u> <u>Effective Concentration</u>	n. The informage, transpor cation. The in d for such mated in the text. cronyms used LD50 LOAEL NFPA NIOSH NTP NZIOC NOAEL	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50% Lowest Observed Adverse Effect Level National Fire Protection Agency National Institute for Occupation Safety & Health National Toxicology Program New Zealand Inventory of Chemicals No Observable Adverse Effect Level
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guidance for hot to be con specific mate other materia ACGIH AIIC DSL DSL CNS CAS EC50 EC50 EGEST EOSCA EINECS MAK	and belief at the date of its publicatio safe handling, use, processing, stor nsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie <b>Xey or legend to abbreviations and a</b> American Conference of Government Industrial Hygienists Australian Inventory of Industrial Chemicals Canada, Domestic Substances List Canada, Non-Domestic Substances List Central Nervous System Chemical Abstract Service Effective Concentration Effective Concentration 50% EOSCA Generic Exposure Scenario Tool European Oilfield Specialty Chemicals Association European Inventory of Existing Chemical Substances Germany Maximum Concentration Values	n. The informage, transpor cation. The in d for such maged in the text. CONTRACTIONAL LD50 LOAEL NFPA NIOSH NTP NZIOC NOAEL NOAEL NOEC OSHA PEL PICCS PRNT	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50% Lowest Observed Adverse Effect Level National Fire Protection Agency National Institute for Occupation Safety & Health National Toxicology Program New Zealand Inventory of Chemicals No Observable Adverse Effect Level No Observed Effect Concentration Occupational Safety & Health Administration Permissible Exposure Limit Philippines Inventory of Commercial Chemical Substanc Presumed Not Toxic
auidance for hot to be conspecific material other material ACGIH AIIC DSL NDSL CNS CAS EC50 EC50 EGEST EOSCA EINECS	and belief at the date of its publicatio safe handling, use, processing, stor nsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie <b>Xey or legend to abbreviations and a</b> American Conference of Government Industrial Hygienists Australian Inventory of Industrial Chemicals Canada, Domestic Substances List Canada, Non-Domestic Substances List Central Nervous System Chemical Abstract Service Effective Concentration Effective Concentration 50% EOSCA Generic Exposure Scenario Tool European Oilfield Specialty Chemicals Association European Inventory of Existing Chemical Substances Germany Maximum Concentration	n. The informage, transpor cation. The in d for such material d in the text. CONTRACTIONAL LOAEL NOAEL NOAEL NOAEL NOAEL NOAEL NOAEL PEL PICCS	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50% Lowest Observed Adverse Effect Level National Fire Protection Agency National Institute for Occupation Safety & Health National Toxicology Program New Zealand Inventory of Chemicals No Observable Adverse Effect Level No Observed Effect Concentration Occupational Safety & Health Administration Permissible Exposure Limit Philippines Inventory of Commercial Chemical Substance Presumed Not Toxic
guidance for hot to be con specific mate other materia ACGIH AIIC DSL DSL CNS CAS EC50 EC50 EGEST EOSCA EINECS MAK	and belief at the date of its publicatio safe handling, use, processing, stor nsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie <b>Xey or legend to abbreviations and a</b> American Conference of Government Industrial Hygienists Australian Inventory of Industrial Chemicals Canada, Domestic Substances List Canada, Non-Domestic Substances List Central Nervous System Chemical Abstract Service Effective Concentration Effective Concentration 50% EOSCA Generic Exposure Scenario Tool European Oilfield Specialty Chemicals Association European Inventory of Existing Chemical Substances Germany Maximum Concentration Values	n. The informage, transpor cation. The in d for such maged in the text. CONTRACTIONAL LD50 LOAEL NFPA NIOSH NTP NZIOC NOAEL NOEC OSHA PEL PICCS PRNT	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50% Lowest Observed Adverse Effect Level National Fire Protection Agency National Institute for Occupation Safety & Health National Toxicology Program New Zealand Inventory of Chemicals No Observable Adverse Effect Level No Observed Effect Concentration Occupational Safety & Health Administration Permissible Exposure Limit Philippines Inventory of Commercial Chemical Substanc Presumed Not Toxic
guidance for hot to be con specific materia her materia ACGIH AIIC DSL NDSL CNS CAS EC50 EC50 EGEST EOSCA EINECS MAK GHS	and belief at the date of its publicatio safe handling, use, processing, stor hsidered a warranty or quality specifi erial designated and may not be valid als or in any process, unless specifie (ev or legend to abbreviations and a American Conference of Government Industrial Hygienists Australian Inventory of Industrial Chemicals Canada, Domestic Substances List Canada, Non-Domestic Substances List Central Nervous System Chemical Abstract Service Effective Concentration Effective Concentration 50% EOSCA Generic Exposure Scenario Tool European Oilfield Specialty Chemicals Association European Inventory of Existing Chemical Substances Germany Maximum Concentration Values Globally Harmonized System	n. The informage, transpor cation. The in d for such material d in the text. CONTRACTIONAL LD50 LOAEL NFPA NIOSH NTP NZIOC NOAEL NOEC OSHA PEL PICCS PRNT RCRA	ation given is designed only as a tation, disposal and release and is formation relates only to the terial used in combination with any d in the safety data sheet Lethal Dose 50% Lowest Observed Adverse Effect Level National Fire Protection Agency National Institute for Occupation Safety & Health National Toxicology Program New Zealand Inventory of Chemicals No Observable Adverse Effect Level No Observed Effect Concentration Occupational Safety & Health Administration Permissible Exposure Limit Philippines Inventory of Commercial Chemical Substanc Presumed Not Toxic Resource Conservation Recover Act

#### SAFETY DATA SHEET

## AlphaPlus® 1-Hexadecene

Version 2.10

Revision Date 2023-01-23

Inventory of Existing Chemical	TWA	Time Weighted Average
Substances in China		÷ ;
Japan, Inventory of Existing and	TSCA	Toxic Substance Control Act
New Chemical Substances		
Korea, Existing Chemical	UVCB	Unknown or Variable Composition,
Inventory		Complex Reaction Products, and
		Biological Materials
Less Than or Equal To	WHMIS	Workplace Hazardous Materials
		Information System
Lethal Concentration 50%	ATE	Acute toxicity estimate
	Japan, Inventory of Existing and New Chemical Substances Korea, Existing Chemical Inventory Less Than or Equal To	Substances in China     TSCA       Japan, Inventory of Existing and New Chemical Substances     TSCA       Korea, Existing Chemical Inventory     UVCB       Less Than or Equal To     WHMIS

#### Full text of H-Statements referred to under sections 2 and 3.

H304

May be fatal if swallowed and enters airways.

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1. Short title of Exposure Scenario: N	lanı	itacture	
Main User Groups	:	SU 3: Industrial uses: Uses of substances as such or in	
Sector of use	:	preparations at industrial sites <b>SU3, SU8, SU9:</b> Industrial Manufacturing (all), Manufacture of	
		bulk, large scale chemicals (including petroleum products),	
Process category	:	Manufacture of fine chemicals <b>PROC1:</b> Use in closed process, no likelihood of exposure	
	•	PROC2: Use in closed, continuous process with occasional	
		controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or	
		formulation)	
		PROC4: Use in batch and other process (synthesis) where	
		opportunity for exposure arises PROC8a: Transfer of substance or preparation	
		(charging/discharging) from/to vessels/large containers at	
		non-dedicated facilities	
		<b>PROC8b:</b> Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated	
		facilities	
		PROC15: Use as laboratory reagent	
Environmental release category	:	ERC1, ERC4: Manufacture of substances, Industrial use of	
		processing aids in processes and products, not becoming part	
		of articles	
Further information	:		
		Manufacture of the substance or use as a process chemical or extraction agent. Includes recycling/ recovery, material	
		transfers, storage, maintenance and loading (including marine	
		vessel/barge, road/rail car and bulk container), sampling and	
		associated laboratory activities	
2.1 Contributing scenario contr	ollir	ng environmental exposure for:ERC1, ERC4:	
Manufacture of substances, Inc	lust	rial use of processing aids in processes and	
products, not becoming part of	arti	cles	
Technical conditions and measure		-	
Remarks	:	Not applicable	
2.2 Contributing scenario contr	ollir	ng worker exposure for: PROC1, PROC2, PROC3,	
		5: Use in closed process, no likelihood of exposure,	
Use in closed, continuous proc	ess	with occasional controlled exposure, Use in closed	
		ation), Use in batch and other process (synthesis)	
		ses, Transfer of substance or preparation sels/large containers at non-dedicated facilities,	
		• ·	
SDS Number:100000065709		20/44	

### SAFETY DATA SHEET AlphaPlus® 1-Hexadecene Version 2.10 Revision Date 2023-01-23 Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities. Use as laboratory reagent Amount used Remarks : Not applicable 3. Exposure estimation and reference to its source Remarks: Not applicable 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario Not applicable 1. Short title of Exposure Scenario: Use as an intermediate Main User Groups : SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites Sector of use : SU3, SU8, SU9: Industrial Manufacturing (all), Manufacture of bulk, large scale chemicals (including petroleum products), Manufacture of fine chemicals Process category : **PROC1:** Use in closed process, no likelihood of exposure **PROC2:** Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) **PROC4:** Use in batch and other process (synthesis) where opportunity for exposure arises **PROC8a:** Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC15: Use as laboratory reagent : ERC6a: Industrial use resulting in manufacture of another Environmental release category substance (use of intermediates) Further information Use of substance as an intermediate (not related to Strictly Controlled Conditions). Includes recycling/ recovery, material transfers, storage, sampling, associated laboratory activities, maintenance and loading (including marine vessel/barge, road/rail car and bulk container). 2.1 Contributing scenario controlling environmental exposure for: ERC6a: Industrial use resulting in manufacture of another substance (use of intermediates)

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	SAFETY DATA SHEET			
AlphaPlus® 1-Hexadece				
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<b>Technical conditions and measure</b> Remarks	es / Organizational measures : Not applicable			
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4, PROC8a, PROC8b, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis)				
(charging/discharging) from/to	e arises, Transfer of substance or preparation vessels/large containers at non-dedicated facilities, aration (charging/ discharging) from/ to vessels/ large es, Use as laboratory reagent			
Amount used Remarks	: Not applicable			
3. Exposure estimation and ref	erence to its source			
Remarks: Not applicable				
4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario				
Not applicable 1. Short title of Exposure Scenario: <b>I</b>	Formulation			
Main User Groups	: <b>SU 3:</b> Industrial uses: Uses of substances as such or in			
Sector of use	<ul> <li>preparations at industrial sites</li> <li>SU3, SU 10: Industrial Manufacturing (all), Formulation</li> <li>[mixing] of preparations and/ or re-packaging (excluding</li> </ul>			
Process category	<ul> <li>alloys)</li> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> </ul>			
	<ul> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</li> <li>PROC8a: Transfer of substance or preparation</li> </ul>			
	(charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated			
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AlphaPlus® 1-Hexadecene	SAFETY DATA SHEET	
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	facilities <b>PROC9:</b> Transfer of substance or preparation into small containers (dedicated filling line, including weighing) <b>PROC14:</b> Production of preparations or articles by tabletting, compression, extrusion, pelletization <b>PROC15:</b> Use as laboratory reagent	
Environmental release category :	ERC2: Formulation of preparations	
Further information :	Formulation, packing and re-packing of the substance and its mixtures in batch or continuous operations, including storage, materials transfers, mixing, tabletting, compression, pelletisation, extrusion, large and small scale packing, sampling, maintenance and associated laboratory activities.	
2.1 Contributing scenario controllir preparations	ng environmental exposure for:ERC2: Formulation of	
Technical conditions and measures / C Remarks :	Organizational measures Not applicable	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4,, PROC8a, PROC8b, PROC9, PROC14, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparations or articles by tabletting, compression, extrusion, pelletization, Use as laboratory reagent		
Amount used Remarks :	Not applicable	
3. Exposure estimation and referen	ce to its source	
Remarks: Not applicable		
4. Guidance to Downstream User to SDS Number:100000065709	evaluate whether he works inside the boundaries set 23/44	

SAFETY DATA SHEET

# AlphaPlus® 1-Hexadecene

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### by the Exposure Scenario

Not applicable 1. Short title of Exposure Scenario: <b>Use in coatings – industrial</b>		
Main User Groups : Sector of use : Process category :	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites SU3: Industrial Manufacturing (all) PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed process, no likelihood of exposure PROC3: Use in closed batch process (synthesis or formulation) PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) PROC7: Industrial spraying PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC10: Roller application or brushing PROC13: Treatment of articles by dipping and pouring PROC14: Production of preparations or articles by tabletting, compression, extrusion, pelletization PROC15: Use as laboratory reagent	
Environmental release category :	<b>ERC4:</b> Industrial use of processing aids in processes and products, not becoming part of articles	
Further information :	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, spreader, dip, flow, fluidised bed on production lines and film formation) and equipment cleaning, maintenance and associated laboratory activities.	
2.1 Contributing scenario controlling environmental exposure for:ERC4: Industrial use of processing aids in processes and products, not becoming part of articles		
Technical conditions and measures / O Remarks :	rganizational measures Not applicable	
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2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4,, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC14, PROC15: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Industrial spraying, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation into small containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Treatment of articles by dipping and pouring, Production of preparations or articles by tabletting, compression, extrusion, pelletization, Use as laboratory reagent

#### Amount used

Remarks

: Not applicable

#### 3. Exposure estimation and reference to its source

Remarks: Not applicable

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario	Use in coatings	- professional
-------------------------------------	-----------------	----------------

Main User Groups Sector of use Process category	<ul> <li>SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)</li> <li>SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC10: Roller application or brushing</li> <li>PROC11: Non industrial spraying</li> <li>PROC13: Treatment of articles by dipping and pouring</li> </ul>
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	PROC15: Use as laboratory reagent PROC19: Hand-mixing with intimate contact and only PPE available	
Environmental release category :	<b>ERC8a, ERC8d:</b> Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems	
Further information :	Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including materials receipt, storage, preparation and transfer from bulk and semi-bulk, application by spray, roller, brush, spreader by hand or similar methods, and film formation), and equipment cleaning, maintenance and associated laboratory activities.	
	ng environmental exposure for:ERC8a, ERC8d: Wide g aids in open systems, Wide dispersive outdoor use	
Technical conditions and measures / O Remarks :	rganizational measures Not applicable	
2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4,, PROC8a, PROC8b, PROC10, PROC11, PROC13, PROC15, PROC19: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Roller application or brushing, Non industrial spraying, Treatment of articles by dipping and pouring, Use as laboratory reagent, Hand-mixing with intimate contact and only PPE available		
Amount used Remarks :	Not applicable	
3. Exposure estimation and referen	ce to its source	
Remarks: Not applicable		
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4. Guidance to Downstream User by the Exposure Scenario	r to evaluate whether he works inside the boundaries set	
Not applicable 1. Short title of Exposure Scenario: <b>Us</b>	e in Coatings - Consumer	
Main User Groups	: <b>SU 21:</b> Consumer uses: Private households (= general public	
Sector of use	<ul> <li>= consumers)</li> <li>SU 21: Consumer uses: Private households (= general public = consumers)</li> </ul>	
Product category	<ul> <li>PC1: Adhesives, sealants</li> <li>PC4: Anti-Freeze and de-icing products</li> <li>PC8: Biocidal products (e.g. Disinfectants, pest control)</li> <li>PC9a: Coatings and paints, thinners, paint removers</li> <li>PC9b: Fillers, putties, plasters, modelling clay</li> <li>PC9c: Finger paints</li> <li>PC15: Non-metal-surface treatment products</li> <li>PC18: Ink and toners</li> <li>PC23: Leather tanning, dye, finishing, impregnation and care products</li> <li>PC24: Lubricants, greases, release products</li> <li>PC31: Polishes and wax blends</li> <li>PC34: Textile dyes, finishing and impregnating products; including bleaches and other processing aids</li> </ul>	
Environmental release category	: <b>ERC8a, ERC8d:</b> Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems	
Further information	: Covers the use in coatings (paints, inks, adhesives, etc) including exposures during use (including product transfer and preparation, application by brush, spray by hand or similar methods) and equipment cleaning.	
2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems		
Technical conditions and measures Remarks	/ Organizational measures : Not applicable	
SDS Number:100000065709	27/44	

	SAFETY DATA SHEET	
AlphaPlus® 1-Hexadecene	on err brinkeneer	
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Version 2.10       Revision Date 2023-01-23         2.2 Contributing scenario controlling consumer exposure for: PC1, PC4, PC8, PC9a, PC9b, PC9c, PC15, PC18, PC23, PC24, PC31, PC34: Adhesives, sealants, Anti-Freeze and de-icing products, Biocidal products (e.g. Disinfectants, pest control), Coatings and paints, thinners, paint removers, Fillers, putties, plasters, modelling clay, Finger paints, Non-metal-surface treatment products, Ink and toners, Leather tanning, dye, finishing, impregnation and care products, Lubricants, greases, release products, Polishes and wax blends, Textile dyes, finishing and impregnating products; including bleaches and other processing aids		
Amount used Remarks :	Not applicable	
3. Exposure estimation and referen	nce to its source	
Remarks: Not applicable		
4. Guidance to Downstream User t by the Exposure Scenario Not applicable 1. Short title of Exposure Scenario: Lubi	o evaluate whether he works inside the boundaries set	
Main User Groups : Sector of use : Process category :	SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites SU3: Industrial Manufacturing (all) PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional	
	controlled exposure <b>PROC3:</b> Use in closed batch process (synthesis or formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises <b>PROC7:</b> Industrial spraying <b>PROC8a:</b> Transfer of substance or preparation	
	(charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities <b>PROC9:</b> Transfer of substance or preparation into small	
	<ul> <li>PROC9. Transfer of substance of preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC10: Roller application or brushing</li> <li>PROC13: Treatment of articles by dipping and pouring</li> <li>PROC17: Lubrication at high energy conditions and in partly open process</li> <li>PROC18: Greasing at high energy conditions</li> </ul>	
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<b>ERC4, ERC7:</b> Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of substances in closed systems
Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of machinery/engines and similar articles, reworking on reject articles, equipment maintenance and disposal of wastes.
ng environmental exposure for:ERC4, ERC7: Industrial es and products, not becoming part of articles, osed systems
Organizational measures Not applicable
ing worker exposure for: PROC1, PROC2, PROC3, b, PROC9, PROC10, PROC13, PROC17, PROC18: Use f exposure, Use in closed, continuous process with se in closed batch process (synthesis or formulation), ynthesis) where opportunity for exposure arises, bstance or preparation (charging/discharging) from/to edicated facilities, Transfer of substance or preparation essels/ large containers at dedicated facilities, Transfer mall containers (dedicated filling line, including ushing, Treatment of articles by dipping and pouring, ons and in partly open process, Greasing at high
: Not applicable
nce to its source
o evaluate whether he works inside the boundaries set
ricants - Professional
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Main User Groups	: SU 22: Professional uses: Public domain (administration,	
Sector of use	education, entertainment, services, craftsmen) : <b>SU 22:</b> Professional uses: Public domain (administration,	
Process category	<ul> <li>education, entertainment, services, craftsmen)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC10: Roller application or brushing</li> <li>PROC11: Non industrial spraying</li> <li>PROC13: Treatment of articles by dipping and pouring</li> <li>PROC17: Lubrication at high energy conditions and in partly open process</li> <li>PROC23: Use and preserve transfer fluids in dispersive</li> </ul>	
	<b>PROC20:</b> Heat and pressure transfer fluids in dispersive, professional use but closed systems	
Environmental release category	: <b>ERC8a, ERC8d, ERC9a, ERC9b:</b> Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems	
Further information	:	
	Covers the use of formulated lubricants in closed and open systems including transfer operations, operation of engines and similar articles, reworking on reject articles, equipment maintenance and disposal of waste oil.	
2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems		
Technical conditions and measures / Organizational measures Remarks : Not applicable		
2.2 Contributing scenario controll	ing worker exposure for: PROC1, PROC2, PROC3,	
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PROC4, PROC8a, PROC8b, PROC9, PROC10, PROC11, PROC13, PROC17, PROC18, PROC20: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Non industrial spraying, Treatment of articles by dipping and pouring, Lubrication at high energy conditions and in partly open process, Greasing at high energy conditions, Heat and pressure transfer fluids in dispersive, professional use but closed systems

Amount used Remarks

: Not applicable

#### 3. Exposure estimation and reference to its source

Remarks: Not applicable

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

 Not applicable

 1. Short title of Exposure Scenario: Lubricants - Consumer

 Main User Groups
 : SU 21: Consumer uses: Private households (= general public = consumers)

 Sector of use
 : SU 21: Consumer uses: Private households (= general public = consumers)

 Product category
 : PC1: Adhesives, sealants PC24: Lubricants, greases, release products PC31: Polishes and wax blends

 Environmental release category
 : ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use

- of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems
- Further information : Covers the consumer use of formulated lubricants in closed and open systems including transfer operations, application, operation of engines and similar articles, equipment maintenance and disposal of waste oil.

2.1 Contributing scenario controlling environmental exposure for:ERC8a, ERC8d, ERC9a, ERC9b: Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use

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of substances in closed system systems	s, Wide dispersive outdoor use of substances in closed
Technical conditions and measures Remarks	: Not applicable
	olling consumer exposure for: PC1, PC24, PC31: s, greases, release products, Polishes and wax blends
<b>Amount used</b> Remarks	: Not applicable
3. Exposure estimation and refe	erence to its source
Remarks: Not applicable	
4. Guidance to Downstream Use by the Exposure Scenario	er to evaluate whether he works inside the boundaries set
Not applicable 1. Short title of Exposure Scenario: <b>U</b> - Industrial	se in Oil and Gas field drilling and production operations
Main User Groups Sector of use Process category	<ul> <li>SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites</li> <li>SU3: Industrial Manufacturing (all)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities</li> </ul>
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-	Povicion Data 2022 01 22	
Version 2.10 Environmental release category :	Revision Date 2023-01-23 <b>ERC4:</b> Industrial use of processing aids in processes and products, not becoming part of articles	
Further information :	Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.	
•	ng environmental exposure for:ERC4: Industrial use of products, not becoming part of articles	
Technical conditions and measures / C Remarks :	<b>Drganizational measures</b> Not applicable	
PROC4, PROC8a, PROC8b: Use in closed, continuous process with o process (synthesis or formulation) opportunity for exposure arises, Tr (charging/discharging) from/to ves	ng worker exposure for: PROC1, PROC2, PROC3, closed process, no likelihood of exposure, Use in ccasional controlled exposure, Use in closed batch , Use in batch and other process (synthesis) where ransfer of substance or preparation csels/large containers at non-dedicated facilities, on (charging/ discharging) from/ to vessels/ large	
Amount used Remarks :	Not applicable	
3. Exposure estimation and referer	nce to its source	
Remarks: Not applicable		
4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario		
Not applicable 1. Short title of Exposure Scenario: <b>Use</b> <b>– Professional</b>	in Oil and Gas field drilling and production operations	
Main User Groups :	<b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)	
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Sector of use : Process category :	<ul> <li>SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)</li> <li>PROC1: Use in closed process, no likelihood of exposure</li> <li>PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities</li> </ul>
Environmental release category :	<b>ERC8d:</b> Wide dispersive outdoor use of processing aids in open systems
Further information :	Oil field well drilling and production operations (including drilling muds and well cleaning) including material transfers, on-site formulation, well head operations, shaker room activities and related maintenance.
dispersive outdoor use of processi Technical conditions and measures / C	
PROC4, PROC8a, PROC8b: Use in closed, continuous process with or process (synthesis or formulation) opportunity for exposure arises, Tr (charging/discharging) from/to ves	ng worker exposure for: PROC1, PROC2, PROC3, closed process, no likelihood of exposure, Use in ccasional controlled exposure, Use in closed batch , Use in batch and other process (synthesis) where ransfer of substance or preparation sels/large containers at non-dedicated facilities, on (charging/ discharging) from/ to vessels/ large
Amount used Remarks :	Not applicable
3. Exposure estimation and referen	ce to its source
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Remarks: Not applicable

#### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

1. Short title of Exposure Scenario: M	etal working fluids / rolling oils - Industrial
Main User Groups Sector of use Process category	<ul> <li>SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites</li> <li>SU3: Industrial Manufacturing (all)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</li> <li>PROC7: Industrial spraying</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC9: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> <li>PROC10: Roller application or brushing</li> <li>PROC17: Lubrication at high energy conditions and in partly open process</li> </ul>
Environmental release category	: <b>ERC4:</b> Industrial use of processing aids in processes and products, not becoming part of articles
Further information	: Covers the use in formulated MWFs/rolling oils including transfer operations, rolling and annealing activities, cutting/machining activities, automated and manual application of corrosion protections (including brushing, dipping and spraying), equipment maintenance, draining and disposal of waste oils.

2.1 Contributing scenario controlling environmental exposure for:ERC4: Industrial use of processing aids in processes and products, not becoming part of articles

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Technical conditions and measures / Organizational measuresRemarks: Not applicable

2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC4,, PROC7, PROC8a, PROC8b, PROC9, PROC10, PROC13, PROC17: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Use in batch and other process (synthesis) where opportunity for exposure arises, PROC 5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/or significant contact), Industrial spraying, Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Roller application or brushing, Treatment of articles by dipping and pouring, Lubrication at high energy conditions and in partly open process

Amount used Remarks

: Not applicable

#### 3. Exposure estimation and reference to its source

Remarks: Not applicable

#### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

#### 1. Short title of Exposure Scenario: Metal working fluids / rolling oils - Professional

Sector of useeducation, entertainment, services, craftsmen)Process category: SU 22: Professional uses: Public domain (administration, education, entertainment, services, craftsmen)Process category: PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation)PROC3: Use in closed batch process (synthesis or formulation)PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC11: Non industrial sprayingSDS Number:10000006570936/44	Main User Groups	: SU 22: Professional uses: Public domain (administration,
Process category       :       PROC1: Use in closed process, no likelihood of exposure         PROC2: Use in closed, continuous process with occasional controlled exposure       PROC3: Use in closed batch process (synthesis or formulation)         PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities       PROC8b: Transfer of substance or preparation (charging/discharging) from/ to vessels/ large containers at dedicated facilities         PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)       PROC10: Roller application or brushing         PROC11: Non industrial spraying       PROC11: Non industrial spraying	Sector of use	
PROC3: Use in closed batch process (synthesis or formulation)         PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities         PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)         PROC10: Roller application or brushing         PROC11: Non industrial spraying	Process category	: <b>PROC1:</b> Use in closed process, no likelihood of exposure <b>PROC2:</b> Use in closed, continuous process with occasional
PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities         PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities         PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)         PROC10: Roller application or brushing PROC11: Non industrial spraying		PROC3: Use in closed batch process (synthesis or
(charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities <b>PROC9:</b> Transfer of substance or preparation into small containers (dedicated filling line, including weighing) <b>PROC10:</b> Roller application or brushing <b>PROC11:</b> Non industrial spraying		
discharging) from/ to vessels/ large containers at dedicated facilities <b>PROC9:</b> Transfer of substance or preparation into small containers (dedicated filling line, including weighing) <b>PROC10:</b> Roller application or brushing <b>PROC11:</b> Non industrial spraying		(charging/discharging) from/to vessels/large containers at
containers (dedicated filling line, including weighing) <b>PROC10:</b> Roller application or brushing <b>PROC11:</b> Non industrial spraying		discharging) from/ to vessels/ large containers at dedicated
PROC11: Non industrial spraying		containers (dedicated filling line, including weighing)
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	<b>PROC13:</b> Treatment of articles by dipping and pouring <b>PROC17:</b> Lubrication at high energy conditions and in partly open process
Environmental release category :	<b>ERC8a, ERC8d, ERC9a, ERC9b:</b> Wide dispersive indoor use of processing aids in open systems, Wide dispersive outdoor use of processing aids in open systems, Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems
Further information :	
	Covers the use in formulated MWFs including transfer operations, open and contained cutting/machining activities, automated and manual application of corrosion protections, draining and working on contaminated/ reject articles, and disposal of waste oils.
ERC9a, ERC9b: Wide dispersive in dispersive outdoor use of process	ng environmental exposure for:ERC8a, ERC8d, door use of processing aids in open systems, Wide ing aids in open systems, Wide dispersive indoor use Wide dispersive outdoor use of substances in closed
<b>Technical conditions and measures / C</b> Remarks :	Organizational measures Not applicable
PROC8a, PROC8b, PROC9, PROC1 no likelihood of exposure, Use in c exposure, Use in closed batch pro- or preparation (charging/dischargi facilities, Transfer of substance or large containers at dedicated facili containers (dedicated filling line, in	ng worker exposure for: PROC1, PROC2, PROC3, 10, PROC11, PROC13, PROC17: Use in closed process, closed, continuous process with occasional controlled cess (synthesis or formulation), Transfer of substance ng) from/to vessels/large containers at non-dedicated preparation (charging/ discharging) from/ to vessels/ ties, Transfer of substance or preparation into small ncluding weighing), Roller application or brushing, t of articles by dipping and pouring, Lubrication at ly open process
Amount used Remarks :	Not applicable
3. Exposure estimation and referer	nce to its source
Remarks: Not applicable	
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4. Guidance to Downstream User by the Exposure Scenario	to evaluate whether he works inside the boundaries set
Not applicable 1. Short title of Exposure Scenario: <b>Fu</b> l	nctional Fluids - Industrial
Main User Groups	: <b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use Process category	<ul> <li>SU3: Industrial Manufacturing (all)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> </ul>
	PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities
	<b>PROC8b:</b> Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
	<b>PROC9:</b> Transfer of substance or preparation into small containers (dedicated filling line, including weighing)
Environmental release category	: ERC7: Industrial use of substances in closed systems
Further information	: Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in industrial equipment
	including maintenance and related material transfers.
2.1 Contributing scenario control substances in closed systems	ling environmental exposure for:ERC7: Industrial use of
Technical conditions and measures Remarks	/ Organizational measures : Not applicable
PROC4, PROC8a, PROC8b,: Use closed, continuous process with process (synthesis or formulation opportunity for exposure arises, (charging/discharging) from/to ver Transfer of substance or prepara	ling worker exposure for: PROC1, PROC2, PROC3, in closed process, no likelihood of exposure, Use in occasional controlled exposure, Use in closed batch n), Use in batch and other process (synthesis) where Transfer of substance or preparation essels/large containers at non-dedicated facilities, tion (charging/ discharging) from/ to vessels/ large Transfer of substance or preparation into small including weighing)
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#### Amount used Remarks

: Not applicable

#### 3. Exposure estimation and reference to its source

Remarks: Not applicable

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Functional Fluids - Professional

Main User Groups	: <b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Sector of use	: <b>SU 22:</b> Professional uses: Public domain (administration, education, entertainment, services, craftsmen)
Process category	<ul> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or formulation) PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing) PROC20: Heat and pressure transfer fluids in dispersive, professional use but closed systems</li> </ul>
Environmental release category	: <b>ERC9a, ERC9b:</b> Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems
Further information	: Use as functional fluids e.g. cable oils, transfer oils, coolants, insulators, refrigerants, hydraulic fluids in professional equipment including maintenance and related material

2.1 Contributing scenario controlling environmental exposure for:ERC9a, ERC9b: Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

transfers.

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Remarks

: Not applicable

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2.2 Contributing scenario controlling worker exposure for: PROC1, PROC2, PROC3, PROC8a,, PROC20: Use in closed process, no likelihood of exposure, Use in closed, continuous process with occasional controlled exposure, Use in closed batch process (synthesis or formulation), Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities, Transfer of substance or preparation into small containers (dedicated filling line, including weighing), Heat and pressure transfer fluids in dispersive, professional use but closed systems

Amount used Remarks

: Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure Scenario: Functional Fluids - Consumer

Main User Groups	: <b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Sector of use	: <b>SU 21:</b> Consumer uses: Private households (= general public = consumers)
Product category	: PC16: Heat transfer fluids PC17: Hydraulic fluids
Environmental release category	: <b>ERC9a, ERC9b:</b> Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems
Further information	: Use of sealed items containing functional fluids e.g. transfer oils, hydraulic fluids, refrigerants.

2.1 Contributing scenario controlling environmental exposure for:ERC9a, ERC9b: Wide dispersive indoor use of substances in closed systems, Wide dispersive outdoor use of substances in closed systems

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 Technical conditions and measures / Organizational measures

 Remarks
 : Not applicable

2.2 Contributing scenario controlling consumer exposure for: PC16, PC17: Heat transfer fluids, Hydraulic fluids

#### Amount used Remarks

: Not applicable

3. Exposure estimation and reference to its source

Remarks: Not applicable

#### 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

1. Short title of Exposure	Scenario: Use i	in polymer	production -	- industrial

Main User Groups Sector of use Process category	<ul> <li>SU 3: Industrial uses: Uses of substances as such or in preparations at industrial sites</li> <li>SU3, SU 10: Industrial Manufacturing (all), Formulation [mixing] of preparations and/ or re-packaging (excluding alloys)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure PROC3: Use in closed batch process (synthesis or</li> </ul>
	formulation) <b>PROC4:</b> Use in batch and other process (synthesis) where opportunity for exposure arises <b>PROC5:</b> Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact) <b>PROC6:</b> Calendering operations <b>PROC8a:</b> Transfer of substance or preparation
	(charging/discharging) from/to vessels/large containers at non-dedicated facilities <b>PROC8b:</b> Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities
	<b>PROC14:</b> Production of preparations or articles by tabletting, compression, extrusion, pelletization <b>PROC15:</b> Use as laboratory reagent
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Environmental release category	: <b>ERC4, ERC6c:</b> Industrial use of processing aids in processes and products, not becoming part of articles, Industrial use of monomers for manufacture of thermoplastics
Further information	:
	Manufacture of polymers from monomers in continuous and batch processes, include sparging, discharging, and reactor maintenance and immediate polymer product formation (i.e. compounding, pelletisation, product off-gassing).
Industrial use of processing aids	lling environmental exposure for:ERC4, ERC6c: in processes and products, not becoming part of ers for manufacture of thermoplastics
Technical conditions and measures Remarks	/ Organizational measures : Not applicable
likelihood of exposure, Use in clo exposure, Use in closed batch pr other process (synthesis) where blending in batch processes for f and/or significant contact), Calen (charging/discharging) from/to ve Transfer of substance or prepara	8b, PROC14, PROC15: Use in closed process, no osed, continuous process with occasional controlled rocess (synthesis or formulation), Use in batch and opportunity for exposure arises, PROC 5: Mixing or formulation of preparations and articles (multistage indering operations, Transfer of substance or preparation essels/large containers at non-dedicated facilities, ition (charging/ discharging) from/ to vessels/ large , Production of preparations or articles by tabletting, ation, Use as laboratory reagent
Amount used Remarks	: Not applicable
3. Exposure estimation and refere	ence to its source
Remarks: Not applicable	
4. Guidance to Downstream User by the Exposure Scenario	to evaluate whether he works inside the boundaries set
Not applicable 1. Short title of Exposure Scenario: <b>Us</b>	e in mining – industrial
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Main User Groups	: <b>SU 3:</b> Industrial uses: Uses of substances as such or in preparations at industrial sites
Sector of use Process category	<ul> <li>SU3: Industrial Manufacturing (all)</li> <li>PROC1: Use in closed process, no likelihood of exposure PROC2: Use in closed, continuous process with occasional controlled exposure</li> <li>PROC3: Use in closed batch process (synthesis or formulation)</li> <li>PROC4: Use in batch and other process (synthesis) where opportunity for exposure arises</li> <li>PROC5: Mixing or blending in batch processes for formulation of preparations and articles (multistage and/ or significant contact)</li> <li>PROC8a: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at non-dedicated facilities</li> <li>PROC8b: Transfer of substance or preparation (charging/ discharging) from/ to vessels/ large containers at dedicated facilities</li> <li>PROC9: Transfer of substance or preparation into small containers (dedicated filling line, including weighing)</li> </ul>
Environmental release category	: <b>ERC4:</b> Industrial use of processing aids in processes and products, not becoming part of articles
Further information	: Covers the use of the substance in extraction processes at mining operations, including material transfers, winning and
	separation activities, and substance recovery and disposal.
	separation activities, and substance recovery and disposal. ling environmental exposure for:ERC4: Industrial use of d products, not becoming part of articles
Processing aids in processes and Technical conditions and measures Remarks 2.2 Contributing scenario control PROC4,, PROC8a, PROC8b, PRO Use in closed, continuous proces batch process (synthesis or form where opportunity for exposure a for formulation of preparations and for formulation of preparations and transfer of substance or prepara containers at non-dedicated facil discharging) from/ to vessels/ lar substance or preparation into sm	separation activities, and substance recovery and disposal. ling environmental exposure for:ERC4: Industrial use of d products, not becoming part of articles
processing aids in processes and Technical conditions and measures Remarks 2.2 Contributing scenario control PROC4,, PROC8a, PROC8b, PRO Use in closed, continuous proces batch process (synthesis or form where opportunity for exposure a for formulation of preparations an Transfer of substance or prepara containers at non-dedicated facil discharging) from/ to vessels/ lar	separation activities, and substance recovery and disposal. ling environmental exposure for:ERC4: Industrial use of d products, not becoming part of articles / Organizational measures : Not applicable ling worker exposure for: PROC1, PROC2, PROC3, C9: Use in closed process, no likelihood of exposure, ss with occasional controlled exposure, Use in closed pulation), Use in batch and other process (synthesis) arises, PROC 5: Mixing or blending in batch processes articles (multistage and/or significant contact), tion (charging/discharging) from/to vessels/large ities, Transfer of substance or preparation (charging/ ge containers at dedicated facilities, Transfer of

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Amount used Remarks

: Not applicable

#### 3. Exposure estimation and reference to its source

Remarks: Not applicable

# 4. Guidance to Downstream User to evaluate whether he works inside the boundaries set by the Exposure Scenario

Not applicable

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