## SAFETY DATA SHEET

# AlphaPlus® C20-24

Version 1.9

Revision Date 2022-04-28

AlphaPlus Normal Alpha Olefins

Product information         Product Name       : AlphaPlus® C20-24         Material       : 1126033, 1126032, 1037057, 1083291, 1059406, 1059404, 1036985, 1037058         Company       :: Chevron Phillips Chemical Company LP Normal Alpha Olefins (NAO) 10001 Six Pines Drive The Woodlands, TX 77380         Emergency telephone:       Health:         866.442.9628 (North America)       1.332.813.4984 (International)         Transport:       CHEMTREC 0800.424.9300 or 703.527.3887(int!l)         Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090       Mexico CHEMTREC 01-800-681-9531 (24 hours)         South America S0S-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600       Argentina: +(54)-1159839431         EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)       Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)         Belgium: 070 245 245 (24 hours/day, 7 days/week)       Bulgaria: -359 2 9154 233       Creatia: +3861 2348 342 (24 hours/day, 7 days/week)         Cyprus: 1401       Czecc Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402       Demmark: Danish Poison Center (Gittlinjen): +45 8214 2121         Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)       Finland: 0800 147 111 09 471 977 (24 hours/day)       France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week)       Greece: (0030) 2107793777 (24 hours/day, 7 days/week)       Greece: 0030, 2107793777 (24 hours/day, 7 days/week)       Greece: 0030, 2107793777 (24	TION 1: Identification of the	e substance/mixture and of the company/undertaking
Product Name : AlphaPlus® C20-24 Material : 1126033, 1126032, 1037057, 1083291, 1059406, 1059404, 1036985, 1037058 Company : Chevron Phillips Chemical Company LP Normal Alpha Olefins (NAO) 10001 Six Pines Drive The Woodlands, TX 77380 Emergency telephone: Health: 866.442.9628 (North America) 1.832.813.4984 (International) Transport: CHEMTREC 800.424.9300 or 703.527.3887(int'l) Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090 Mexico CHEMTREC 01-800-681-9531 (24 hours) South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600 Argentina: +(54)-1159839431 EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Austria: V12 +43 1 406 43 43 (24 hours/day, 7 days/week) Belgium: 070 245 245 (24 hours/day, 7 days/week) Belgium: 070 245 245 (24 hours/day, 7 days/week) Bulgaria: +359 2 9154 233 Croatia: +3581 2348 342 (24 hours/day, 7 days/week) Bulgaria: +351 2348 342 (24 hours/day, 7 days/week) Cyprus: 1401 Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402 Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212 Estonia: BIG 432.14.584545 (phone) or +32.14583516 (telefax) Finland: 0800 147 111 09 471 977 (24 hours/day) France: ORFILA number (INRS): +33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Hungary: +36-80-201-199 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Hungary: +36-80-201-199 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Hungary: +36-80-201-199 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Hungary: +36-80-201-199 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Hat): BIG +32.14.584545 (phone) or +3		
Material : 1/26033, 1126032, 1037057, 1083291, 1059406, 1059404, 1036985, 1037058 Company : Chevron Phillips Chemical Company LP Normal Alpha Olefins (NAO) 10001 Six Pines Drive The Woodlands, TX 77380 Emergency telephone: Health: 866.442.9628 (North America) 1.832.813.4984 (International) Transport: CHEMTREC 800.424.9300 or 703.527.3887(int'l) Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090 Mexico CHEMTREC 01-800-681-9531 (24 hours) South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600 Argentina: +(54)-1159839431 EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Austria: VJZ +43 1 406 43 43 (24 hours/day, 7 days/week) Belgium: 070 245 245 (24 hours/day, 7 days/week) Belgium: 070 245 245 (24 hours/day, 7 days/week) Bulgaria: +359 2 9154 233 Croatia: +3851 2348 342 (24 hours/day, 7 days/week) Cyprus: 1401 Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402 Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212 Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Finland: 0800 147 111 09 471 977 (24 hours/day) France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Hungary: +38-80-201199 (24 hours/day, 7 days/week) Hungary: +38-80-201199 (24 hours/day, 7 days/week) Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Italy: BIG +32.14.584545 (phone) or	Product information	
Normal Alpha Olefins (NAO) 10001 Six Pines Drive The Woodlands, TX 77380 Emergency telephone: Health: 866.442.9628 (North America) 1.832.813.4984 (International) Transport: CHEMTREC 800.424.9300 or 703.527.3887(int'l) Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090 Mexico CHEMTREC 01-800-681-9531 (24 hours) South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600 Argentina: +(54)-1159839431 EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week) Belgium: 070 245 245 (24 hours/day, 7 days/week) Bulgaria: +359 2 9154 233 Croatia: +3851 2348 342 (24 hours/day, 7 days/week) Cyprus: 1401 Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402 Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212 Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Finland: 0800 147 111 09 471 977 (24 hours/day) France: ORFILA number (INRS): + 33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Greece: (0030) 2107793777 (24 hours/day, 7 days/week) Hungary: +38-80-201-199 (24 hours/day, 7 days/week) Iceland: 543 2222 (24 hours/day, 7 days/week) Iceland: 543 2224 (24 hours/day, 7 days/week) Iceland: 543 2242 (24 hours/day, 7		: 1126033, 1126032, 1037057, 1083291, 1059406, 1059404,
Health:         866.442.9628 (North America)         1.832.813.4984 (International)         Transport:         CHEMTREC 800.424.9300 or 703.527.3887(int'l)         Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090         Mexico CHEMTREC 01-800-681-9531 (24 hours)         South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600         Argentina: +(54)-1159839431         EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax)         Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week)         Belgium: 070 245 245 (24 hours/day, 7 days/week)         Bulgaria: +359 2 9154 233         Croatia: +3851 2348 342 (24 hours/day, 7 days/week)         Sugaria: +3851 2348 342 (24 hours/day, 7 days/week)         Cyprus: 1401         Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402         Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212         Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax)         Finland: 0800 147 111 09 471 977 (24 hours/day)         France: ORFILA number (INRS): + 33 (0) 1 4 54 2 59 59 (24 hours/day, 7 days/week)         Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax)         Hungary: +36-80-201-199 (24 hours/day, 7 days/week)         Iceland: 543 2222 (24 hours/day, 7 days/week)         Iceland: 543 2222 (24 hours/day, 7 days/week)	Company	Normal Alpha Olefins (NAO) 10001 Six Pines Drive
866.442.9628 (North America) 1.832.813.4984 (International) <b>Transport:</b> CHEMTREC 800.424.9300 or 703.527.3887(int'l) Asia: CHEMWATCH (+612 9186 1132) China: 0532 8388 9090 Mexico CHEMTREC 01-800-681-9531 (24 hours) South America SOS-Cotec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600 Argentina: +(54)-1159839431 EUROPE: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Austria: VIZ +43 1 406 43 43 (24 hours/day, 7 days/week) Belgium: 070 245 245 (24 hours/day, 7 days/week) Bulgaria: +359 2 9154 233 Croatia: +3851 2348 342 (24 hours/day, 7 days/week) Cyprus: 1401 Czech Republic: Toxicological Information Center +420 224 919 293, +420 224 915 402 Denmark: Danish Poison Center (Giftlinjen): +45 8212 1212 Estonia: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Finland: 0800 147 111 09 471 977 (24 hours/day) France: ORFILA number (INRS): +33 (0) 1 45 42 59 59 (24 hours/day, 7 days/week) Germany: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Greece: (0030) 21077937777 (24 hours/day, 7 days/week) Hungary: +36-80-201-199 (24 hours/day, 7 days/week) Hungary: +36-80-201-199 (24 hours/day, 7 days/week) Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Ireland: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Italy: BIG +32.14.584545 (phone) or +32.14583516 (telefax) Latvia: State Fire and Rescue Service, phone number: 112; Toxicology and Sepsis Clinic Poisoning and Drug Information Center, Hipokräta 2, Riga, Latvia, LV-1038, phone number +3 67042473. (24 hours.) Liechtenstein: BIG +32.14.584545 (phone) or +32.14583516 (telefax)	Emergency telephone:	
	1.832.813.4984 (International Transport: CHEMTREC 800.424.93 Asia: CHEMWATCH (+6 Mexico CHEMTREC 01- South America SOS-Cor Argentina: +(54)-115983 EUROPE: BIG +32.14.5 Austria: VIZ +43 1 406 4 Belgium: 070 245 245 (2 Bulgaria: +359 2 9154 2 Croatia: +3851 2348 342 Cyprus: 1401 Czech Republic: Toxicol Denmark: Danish Poison Estonia: BIG +32.14.584 Finland: 0800 147 111	ional) 00 or 703.527.3887(int'l) 12 9186 1132) China: 0532 8388 9090 800-681-9531 (24 hours) ec Inside Brazil: 0800.111.767 Outside Brazil: +55.19.3467.1600 9431 84545 (phone) or +32.14583516 (telefax) 843 (24 hours/day, 7 days/week) 4 hours/day, 7 days/week) 83 (24 hours/day, 7 days/week) bgical Information Center +420 224 919 293, +420 224 915 402 Center (Giftlinjen): +45 8212 1212

phaPlus® C20-24 prsion 1.9	Revision Date 2022-04-2
Malta: +356 2395 2000 The Netherlands: NVIC: Norway: 22 59 13 00 (24 Poland: BIG +32.14.5845 Portugal: CIAV phone nu Romania: +40213183606 Slovakia: +421 2 5477 41 Slovenia: Phone number	hours/day, 7 days/week) 545 (phone) or +32.14583516 (telefax) mber: +351 800 250 250 5 166 : 112 cy Telephone Number of Spanish Poison Centre: +34 91 562 04 20 (2
Responsible Department E-mail address Website	<ul> <li>Product Safety and Toxicology Group</li> <li>SDS@CPChem.com</li> <li>www.CPChem.com</li> </ul>
CTION 2: Hazards identificat	tion
	ance or mixture ified in accordance with the hazard communication standard 29 CFR bels contain all the information as required by the standard. : Aspiration hazard, Category 1
Labeling	
Symbol(s)	
Signal Word	: Danger
Hazard Statements	: H304: May be fatal if swallowed and enters airways.
Dragoutionary Statementa	_
Precautionary Statements	<ul> <li>Response:</li> <li>P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.</li> <li>P331 Do NOT induce vomiting.</li> <li>Storage:</li> <li>P405 Store locked up.</li> <li>Disposal:</li> <li>P501 Dispose of contents/ container to an approved waste disposal plant.</li> </ul>
Carcinogenicity:	<ul> <li>P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.</li> <li>P331 Do NOT induce vomiting.</li> <li>Storage:</li> <li>P405 Store locked up.</li> <li>Disposal:</li> <li>P501 Dispose of contents/ container to an approved waste</li> </ul>
	<ul> <li>P301 + P310 IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician.</li> <li>P331 Do NOT induce vomiting.</li> <li>Storage:</li> <li>P405 Store locked up.</li> <li>Disposal:</li> <li>P501 Dispose of contents/ container to an approved waste</li> </ul>

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:	NAO 20-24 C20-24 Alpha Olefin Fraction		
:	UVCB		
			Weight %
			100
			35 - 55
			25 - 45
			10 - 26
			0 - 2
			0 - 0.1
		112-00-9	0-0.1
:	No haza	rds which require	special first aid measures.
:		If unconscious, place in recovery position and seek medical advice. If symptoms persist, call a physician.	
:	If skin irritation persists, call a physician. If on skin, rinse well with water. If on clothes, remove clothes.		
:	Flush eyes with water as a precaution. Remove contact lenses. Protect unharmed eye. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.		
:	Keep respiratory tract clear. Do not give milk or alcoholic beverages. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician.		
res			
:			
	methou.	FINCC	
:	239°C (4	462°F)	
:	High volume water jet.		
:	Standard procedure for chemical fires. Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.		
:	Wear self-contained breathing apparatus for firefighting if necessary.		
	Standard	brocedure for ch	emical fires. Use extinguishing
	: : : :	<ul> <li>UVCB</li> <li>UVCB</li> <li>I</li> <li>I</li></ul>	<ul> <li>UVCB</li> <li>CAS-No.</li> <li>93924-10-8</li> <li>3452-07-1</li> <li>1599-67-3</li> <li>10192-32-2</li> <li>18835-33-1</li> <li>112-88-9</li> </ul> If unconscious, place in readvice. If symptoms persists, cawith water. If on clothes, r If skin irritation persists, cawith water. If on clothes, r Flush eyes with water as a lenses. Protect unharmed rinsing. If eye irritation persists Keep respiratory tract clead beverages. Never give an person. If symptoms persist Keep respiratory tract clead beverages. Never give an person. If symptoms persist It als3°C (361°F) Method: PMCC 239°C (462°F) High volume water jet. Standard procedure for ch measures that are approprisurrounding environment. Wear self-contained breatter

phaPlus® C20-24		SAFETY DATA SHEET
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		measures that are appropriate to local circumstances and the surrounding environment.
Fire and explosion protection	:	Provide appropriate exhaust ventilation at places where dust is formed.
CTION 6: Accidental release	me	asures
Personal precautions	:	Use personal protective equipment. Avoid dust formation. Avoid breathing dust.
Environmental precautions	:	Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods for cleaning up	:	Keep in suitable, closed containers for disposal.
CTION 7: Handling and stora	age	
Handling		
A duine an anta ban dlian		
Advice on safe handling	:	Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. Dispose of rinse water in accordance with local and national regulations.
Advice on protection against fire and explosion	:	Provide appropriate exhaust ventilation at places where dust is formed.
Storage		
Requirements for storage areas and containers	:	Keep container tightly closed in a dry and well-ventilated place. Electrical installations / working materials must comply with the technological safety standards.
CTION 8: Exposure controls	/ner	sonal protection
Engineering measures		
Consider the potential hazar activities, and other substand personal protective equipme exposure to harmful levels or recommended. The user sho	ds c ces nt. f this oulc	irborned concentrations below the exposure guidelines/limits. of this material (see Section 2), applicable exposure limits, job in the work place when designing engineering controls and selectin If engineering controls or work practices are not adequate to prever is material, the personal protective equipment listed below is I read and understand all instructions and limitations supplied with is usually provided for a limited time or under certain circumstances.
Personal protective equipr	nen	t
Respiratory protection	:	Wear a supplied-air NIOSH approved respirator unless ventilation or other engineering controls are adequate to maintain minimal oxygen content of 19.5% by volume under normal atmospheric pressure. Wear a NIOSH approved respirator that provides protection when working with this

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		material if exposure to harmful levels of airborne material may occur, such as:. Air-Purifying Respirator for Organic Vapors, Dusts and Mists. Use a positive pressure, air-supplying respirator 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.
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.
Eye protection	:	Eye wash bottle with pure water. Safety glasses.
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:. Protective suit. Safety shoes.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.
ECTION 9: Physical and cher	mical	properties
ECTION 9: Physical and cher Information on basic phy Appearance		
Information on basic phy		
Information on basic phy Appearance Form Physical state		and chemical properties Wax., solid solid
Information on basic phy Appearance Form Physical state Color		and chemical properties Wax., solid solid
Information on basic phy Appearance Form Physical state Color Safety data	sical	and chemical properties Wax., solid solid White 183°C (361°F)
Information on basic phy Appearance Form Physical state Color Safety data Flash point	sical	and chemical properties Wax., solid solid White 183°C (361°F) Method: PMCC
Information on basic phy Appearance Form Physical state Color Safety data Flash point Lower explosion limit	sical	and chemical properties Wax., solid solid White 183°C (361°F) Method: PMCC No data available
Information on basic phy Appearance Form Physical state Color Safety data Flash point Lower explosion limit Upper explosion limit	sical	and chemical properties Wax., solid solid White 183°C (361°F) Method: PMCC No data available No data available
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Information on basic phy Appearance Form Physical state Color Safety data Flash point Lower explosion limit Upper explosion limit Oxidizing properties Autoignition temperature	sical : : : : : :	and chemical properties Wax., solid solid White 183°C (361°F) Method: PMCC No data available No data available no 239°C (462°F)
Information on basic phy Appearance Form Physical state Color Safety data Flash point Lower explosion limit Upper explosion limit Oxidizing properties Autoignition temperature Molecular formula	sical : : : : : :	and chemical properties Wax., solid solid White 183°C (361°F) Method: PMCC No data available No data available no 239°C (462°F) UVCB
Information on basic phy Appearance Form Physical state Color Safety data Flash point Lower explosion limit Upper explosion limit Oxidizing properties Autoignition temperature Molecular formula Molecular weight	sical : : : : : : : : : : : : : : : : : : :	and chemical properties Wax., solid solid White 183°C (361°F) Method: PMCC No data available No data available no 239°C (462°F) UVCB Varies
Information on basic phy Appearance Form Physical state Color Safety data Flash point Lower explosion limit Upper explosion limit Oxidizing properties Autoignition temperature Molecular formula Molecular weight pH	sical : : : : : : : : : : : : : : : : : : :	and chemical properties Wax., solid solid White 183°C (361°F) Method: PMCC No data available No data available no 239°C (462°F) UVCB Varies Not applicable

### SAFETY DATA SHEET

# AlphaPlus® C20-24

	V	ersion	1	.9
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Version 1.9	Revision Date 2022-04-28
Pour point	No data available
Boiling point/boiling range	: 342-390°C (648-734°F)
Vapor pressure	: < 0.01 kPa at 65°C (149°F)
Relative density	: 0.8 at 15.6 °C (60.1 °F)
Density	: 815 kg/m3 at 15°C (59°F)
	792 kg/m3 at 50°C (122°F)
Water solubility	: Soluble in hydrocarbon solvents; insoluble in water.
Partition coefficient: n-	: No data available
octanol/water Viscosity, kinematic	: 6.356 cSt at 40°C (104°F)
Relative vapor density	: Not applicable
Evaporation rate	: Not applicable
SECTION 10: Stability and react	tivity
Reactivity	: Stable at normal ambient temperature and pressure.
Chemical stability	: This material is considered stable under normal ambient and anticipated storage and handling conditions of temperature and pressure.
Possibility of hazardous re	actions
Hazardous reactions	: Further information: No decomposition if stored and applied as directed.
Conditions to avoid	: No data available.
Materials to avoid	: No data available.

Other data : No decomposition if stored and applied as directed.

## SECTION 11: Toxicological information

AlphaPlus® C20-24 Acute oral toxicity	: LD50 Oral: > 5,000 mg/kg	
SDS Number:100000068831	6/15	

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sion 1.9	Revision Date 2022-04
	Species: Rat Sex: male and female Method: OECD Test Guideline 423 Test substance: yes
AlphaPlus® C20-24 Acute inhalation toxicity	<ul> <li>LC50: 110.1 mg/LExposure time: 4 h Species: Rat Sex: male Test atmosphere: vapor Method: OECD Test Guideline 403 Information given is based on data obtained from similar substances.</li> </ul>
AlphaPlus® C20-24 Acute dermal toxicity	<ul> <li>LD50 Dermal: &gt; 2,000 mg/kg</li> <li>Species: Rat</li> <li>Sex: male and female</li> <li>Method: OECD Test Guideline 402</li> <li>Information given is based on data obtained from similar substances.</li> </ul>
AlphaPlus® C20-24 Skin irritation	: No skin irritation.
AlphaPlus® C20-24 Eye irritation	: No eye irritation. Information given is based on data obtained from similar substances.
AlphaPlus® C20-24 Sensitization	: Did not cause sensitization on laboratory animals.
Repeated dose toxicity	
Alkenes, C20-24 α-	<ul> <li>Species: Rat, Male and female Sex: Male and female Application Route: oral gavage Dose: 100, 500, 1000 mg/kg/d Exposure time: 42-51 days Number of exposures: Daily NOEL: 1000 mg/kg bw/day Method: OECD Guideline 422</li> </ul>
S Number:100000068831	7/15

phaPlus® C20-24	SAFETY DATA SHE
rsion 1.9	Revision Date 2022-04
	Species: Rat, Male and female Sex: Male and female Application Route: oral gavage Dose: 100, 500, 1000 mg/kg/d Exposure time: 13 weeks Number of exposures: 7 d/wk NOEL: 1000 mg/kg bw/day Method: OCED Guideline 408
	Species: Rat, Male and female Sex: Male and female Application Route: Inhalation Dose: 300, 1000, 3000 ppm Exposure time: 13 weeks Number of exposures: 5 d/wk, 6 hrs/d NOEL: 3000 ppm Method: OECD Guideline 413
1-Octadecene	Species: rat (female) Application Route: oral gavage Dose: 0, 100, 500, 1000 mg/kg/d NOEL: 1,000 mg/kg Method: OECD Guideline 422 Information given is based on data obtained from similar substances.
Genotoxicity in vitro	
Alkenes, C20-24 α-	: Test Type: Ames test Metabolic activation: with and without metabolic activation Result: negative
	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 Method: OECD Guideline 476 Result: negative
	Test Type: Chromosome aberration test in vitro Result: negative
1-Octadecene	Test Type: Ames test Metabolic activation: with and without metabolic activation Method: OECD Test Guideline 471 Result: negative
	Test Type: Chromosome aberration test in vitro Test system: rodent hepatocytes Method: OECD Test Guideline 473 Result: negative
Genotoxicity in vivo	
Alkenes, C20-24 α-	: Test Type: Mouse micronucleus assay Species: Mouse Exposure time: 500, 1,000, 2,000 mg/kg
S Number:100000068831	8/15

haPlus® C20-24	SAFETY DATA S
sion 1.9	Revision Date 2022
	Method: Mutagenicity (micronucleus test) Result: negative
	Test Type: Mouse micronucleus assay Species: Mouse
	Exposure time: 1,000, 10,000, 25,000 ppm Method: Mutagenicity (micronucleus test)
	Result: negative
Reproductive toxicity	
Alkenes, C20-24 α-	: Species: Rat Sex: male and female Application Route: oral gavage Dose: 100, 500, 1000 mg/kg/day Number of exposures: Daily
	Test period: 41-55 days Method: OECD Guideline 422 NOAEL Parent: 1000 mg/kg bw/day NOAEL F1: 1000 mg/kg bw/day
	Species: Rat Sex: male and female Application Route: oral gavage Dose: 100, 500, 1000 mg/kg/d Number of exposures: Daily Test period: 42-51days
	Method: OECD Guideline 421 NOAEL Parent: 1000 mg/kg bw/day NOAEL F1: 1000 mg/kg bw/day
1-Octadecene	Species: Rat Sex: male and female Application Route: oral gavage Dose: 0, 100, 500, 1000 mg/kg/d Method: OECD Guideline 421 NOAEL Parent: 1,000 mg/kg NOAEL F1: 1,000 mg/kg Information given is based on data obtained from similar substances.
AlphaPlus® C20-24 Aspiration toxicity	: May be fatal if swallowed and enters airways.
CMR effects	
Alkenes, C20-24 α-	<ul> <li>Carcinogenicity: Not available Mutagenicity: Did not show mutagenic effects in animal experiments. Teratogenicity: Did not show teratogenic effects in animal experiments. Reproductive toxicity: No toxicity to reproduction</li> </ul>
1-Octadecene	Carcinogenicity: Not available Mutagenicity: Tests on bacterial or mammalian cell cultures did not show mutagenic effects. Teratogenicity: Not available Reproductive toxicity: No toxicity to reproduction
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AlphaPlus® C20-24 Further information	: No data available.	
CTION 12: Ecological information		
Ecotoxicity effects		
Toxicity to fish	<ul> <li>LL50: &gt; 1,000 mg/l Exposure time: 96 h Species: Oncorhynchus mykiss (rainbow trout) semi-static test 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 other aquatic invertebrates	: EL50: 1,000 mg/l Exposure time: 48 h Species: Daphnia magna (Water flea) static test Method: OECD Test Guideline 202	
Toxicity to algae	: EL50: > 1,000 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.	
Toxicity to bacteria		
1-Octadecene	: NOEC: 3 mg/l Exposure time: 120 h Respiration inhibition	
Biodegradability	: This material is expected to be readily biodegradable. Information given is based on data obtained from similar substances.	
Elimination information (persist	ence and degradability)	
Bioaccumulation	: This material is not expected to bioaccumulate.	
Mobility	: No data available	
Results of PBT assessment	: 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.	
Additional ecological information <b>Ecotoxicology Assessment</b>	: No data available	
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Short-term (acute) aquatic hazard	: This material is not expected to be harmful to aquatic organisms.
Long-term (chronic) aquatic hazard	: This material is not expected to be harmful to aquatic organisms.
CTION 13: Disposal considera	ations
The information in this SDS po	ertains only to the product as shipped.
may meet the criteria of a haz other State and local regulation regulated components may be	burpose or recycle if possible. This material, if it must be discarded, ardous waste as defined by US EPA under RCRA (40 CFR 261) or ons. Measurement of certain physical properties and analysis for a necessary to make a correct determination. If this material is one, federal law requires disposal at a licensed hazardous waste
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.
Contaminated packaging	: Empty remaining contents. Dispose of as unused product. Do not re-use empty containers.
CTION 14: Transport informat	ion
	hown here are for bulk shipments only, and may not apply to ages (see regulatory definition).
shipments in non-bulk pack Consult the appropriate dome Goods Regulations for additio etc.) Therefore, the information	
<ul> <li>shipments in non-bulk pack</li> <li>Consult the appropriate dome Goods Regulations for additio etc.) Therefore, the information description for the material. F bill of lading.</li> <li>US DOT (UNITED STATES D NOT REGULATED AS A F TRANSPORTATION BY T When shipment is offered for</li> </ul>	ages (see regulatory definition). stic or international mode-specific and quantity-specific Dangerous nal shipping description requirements (e.g., technical name or name on shown here, may not always agree with the bill of lading shipping lashpoints for the material may vary slightly between the SDS and the DEPARTMENT OF TRANSPORTATION) HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR
<ul> <li>shipments in non-bulk pack</li> <li>Consult the appropriate dome Goods Regulations for additio etc.) Therefore, the informatio description for the material. F bill of lading.</li> <li>US DOT (UNITED STATES D NOT REGULATED AS A F TRANSPORTATION BY T</li> <li>When shipment is offered for 9, III</li> <li>IMO / IMDG (INTERNATION A NOT REGULATED AS A F TRANSPORTATION BY T</li> </ul>	ages (see regulatory definition). stic or international mode-specific and quantity-specific Dangerous nal shipping description requirements (e.g., technical name or name on shown here, may not always agree with the bill of lading shipping lashpoints for the material may vary slightly between the SDS and the <b>PEPARTMENT OF TRANSPORTATION</b> HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR HIS AGENCY. for transport at or above 100°C it is regulated as: IPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C20-24 <b>AL MARITIME DANGEROUS GOODS)</b> HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR HIS AGENCY.
<ul> <li>shipments in non-bulk pack</li> <li>Consult the appropriate dome Goods Regulations for additio etc.) Therefore, the informatio description for the material. F bill of lading.</li> <li>US DOT (UNITED STATES D NOT REGULATED AS A H TRANSPORTATION BY T</li> <li>When shipment is offered for 9, III</li> <li>IMO / IMDG (INTERNATION A NOT REGULATED AS A H TRANSPORTATION BY T</li> <li>When shipment is offered for When shipment is offered for When shipment is offered for When shipment is offered for When shipment is offered for</li> </ul>	ages (see regulatory definition). stic or international mode-specific and quantity-specific Dangerous nal shipping description requirements (e.g., technical name or name on shown here, may not always agree with the bill of lading shipping lashpoints for the material may vary slightly between the SDS and the <b>PEPARTMENT OF TRANSPORTATION)</b> HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR HIS AGENCY. for transport at or above 100°C it is regulated as: IPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C20-24 AL MARITIME DANGEROUS GOODS) HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR
<ul> <li>shipments in non-bulk pack</li> <li>Consult the appropriate dome Goods Regulations for additio etc.) Therefore, the informatio description for the material. F bill of lading.</li> <li>US DOT (UNITED STATES D NOT REGULATED AS A H TRANSPORTATION BY T</li> <li>When shipment is offered for 9, III</li> <li>IMO / IMDG (INTERNATION A NOT REGULATED AS A H TRANSPORTATION BY T</li> <li>When shipment is offered for UN3257, ELEVATED TEM 9, III</li> <li>When shipment is offered for UN3257, ELEVATED TEM 9, III (183°C)</li> <li>IATA (INTERNATIONAL AIR</li> </ul>	ages (see regulatory definition). stic or international mode-specific and quantity-specific Dangerous nal shipping description requirements (e.g., technical name or name on shown here, may not always agree with the bill of lading shipping lashpoints for the material may vary slightly between the SDS and the <b>PEPARTMENT OF TRANSPORTATION</b> ) HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR HIS AGENCY. for transport at or above 100°C it is regulated as: IPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C20-24 AL MARITIME DANGEROUS GOODS) HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR HIS AGENCY. for transport at or above 100°C it is regulated as: IPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C20-24 AL MARITIME DANGEROUS GOODS) HAZARDOUS MATERIAL OR DANGEROUS GOODS FOR HIS AGENCY. for transport at or above 100°C it is regulated as:

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TRANSPORTATION BY THIS AGENCY.

When shipment is offered for transport at or above 100°C it is regulated as:

UN3257, 9: NOT PERMITTED FOR TRANSPORT

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

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

When shipment is offered for transport at or above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C20-24) , 9, III , (D)

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

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

When shipment is offered for transport at or above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C20-24) , 9, III

#### 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.

When shipment is offered for transport at or above 100°C it is regulated as:

UN3257, ELEVATED TEMPERATURE LIQUID, N.O.S., (ALPHA OLEFIN FRACTION, C20-24) , 9, III

Other information	: OLEFINS (C13 +, all isomers), S.T. 2, Cat.Y	

Maritime transport in bulk according to IMO instruments

#### **SECTION 15: Regulatory information**

**National legislation** 

SARA 311/312 Hazards	: Aspiration hazard
CERCLA Reportable Quantity	: This material does not contain any components with a CERCLA RQ.

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SARA 302 Reportable Quantity	: This material does not contain any components with a SARA 302 RQ.
SARA 302 Threshold Planning Quantity	: This material does not contain any components with a section 302 EHS TPQ.
SARA 304 Reportable Quantity	: This material does not contain any components with a section 304 EHS RQ.
SARA 313 Components	: This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.
Clean Air Act	
Potential Class	product neither contains, nor was manufactured with a Class I or II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR ubpt. A, App.A + B).
This product does not conta Act Section 112 (40 CFR 61	in any hazardous air pollutants (HAP), as defined by the U.S. Clean Air ).
	in any chemicals listed under the U.S. Clean Air Act Section 112(r) for on (40 CFR 68.130, Subpart F).
This product does not conta Intermediate or Final VOC's	in any chemicals listed under the U.S. Clean Air Act Section 111 SOCMI (40 CFR 60.489).
US State Regulations	
Pennsylvania Right To Knov	
	<ul> <li>Alkenes, C20-24 α 93924-10-8</li> <li>1-Eicosene - 3452-07-1</li> <li>1-Docosene - 1599-67-3</li> <li>1-Tetracosene - 10192-32-2</li> </ul>
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California Prop. 65 Components	: This product, as shipped, does not contain any carcinogens or reproductive toxins presently known by the State of California to cause cancer or reproductive toxicity at a level of exposure subject to the requirements of California Proposition 65.
Notification status Europe REACH United States of America (US TSCA Canada DSL Australia AICS New Zealand NZIoC	<ul> <li>This product is in full compliance according to REACH regulation 1907/2006/EC.</li> <li>SA) On or in compliance with the active portion of the TSCA inventory</li> <li>On the inventory, or in compliance with the inventory</li> <li>On the inventory, or in compliance with the inventory</li> <li>This substance may be used as a component in a product covered by a group standard but it is not approved for use as a chemical in its own right</li> </ul>
Japan ENCS Korea KECI	<ul> <li>On the inventory, or in compliance with the inventory</li> <li>A substance(s) in this product was not registered, 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).</li> </ul>
Philippines PICCS China IECSC Taiwan TCSI	<ul> <li>On the inventory, or in compliance with the inventory</li> <li>On the inventory, or in compliance with the inventory</li> <li>On the inventory, or in compliance with the inventory</li> </ul>
CTION 16: Other information	
NFPA Classification	: Health Hazard: 0 Fire Hazard: 1 Reactivity Hazard: 0
Further information	~
Legacy SDS Number	: PE0025
previous versions. The information in this SDS The information provided in t information and belief at the	e last version are highlighted in the margin. This version replaces all pertains only to the product as shipped. this Safety Data Sheet is correct to the best of our knowledge, date of its publication. The information given is designed only as a use, processing, storage, transportation, disposal and release and is
	nty or quality specification. The information relates only to the

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specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

ŀ	Key or legend to abbreviations and a	cronvms use	d in the safety data sheet
ACGIH	American Conference of Government Industrial Hygienists	LD50	Lethal Dose 50%
AICS	Australia, Inventory of Chemical Substances	LOAEL	Lowest Observed Adverse Effect Level
DSL	Canada, Domestic Substances List	NFPA	National Fire Protection Agency
NDSL	Canada, Non-Domestic Substances List	NIOSH	National Institute for Occupational Safety & Health
CNS	Central Nervous System	NTP	National Toxicology Program
CAS	Chemical Abstract Service	NZIoC	New Zealand Inventory of Chemicals
EC50	Effective Concentration	NOAEL	No Observable Adverse Effect Level
EC50	Effective Concentration 50%	NOEC	No Observed Effect Concentration
EGEST	EOSCA Generic Exposure Scenario Tool	OSHA	Occupational Safety & Health Administration
EOSCA	European Oilfield Specialty Chemicals Association	PEL	Permissible Exposure Limit
EINECS	European Inventory of Existing Chemical Substances	PICCS	Philippines Inventory of Commercial Chemical Substances
MAK	Germany Maximum Concentration Values	PRNT	Presumed Not Toxic
GHS	Globally Harmonized System	RCRA	Resource Conservation Recovery Act
>=	Greater Than or Equal To	STEL	Short-term Exposure Limit
IC50	Inhibition Concentration 50%	SARA	Superfund Amendments and Reauthorization Act.
IARC	International Agency for Research on Cancer	TLV	Threshold Limit Value
IECSC	Inventory of Existing Chemical Substances in China	TWA	Time Weighted Average
ENCS	Japan, Inventory of Existing and New Chemical Substances	TSCA	Toxic Substance Control Act
KECI	Korea, Existing Chemical Inventory	UVCB	Unknown or Variable Composition, Complex Reaction Products, and Biological Materials
<=	Less Than or Equal To	WHMIS	Workplace Hazardous Materials Information System
LC50	Lethal Concentration 50%		

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