



Version	Revision Date:	SDS Number:	Date of last issue: 03-25-2021
5.1	11-01-2023	101196343	Date of first issue: 11-01-2023

BLUE CUBE OPERATIONS LLC encourages and expects you to read and understand the entire (M)SDS, as there is important information throughout the document. We expect you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

SECTION 1. IDENTIFICATION

Product name Product code	:	D.E.R.® 662UH Solid Epoxy Resin 000000001000002161
Manufacturer or supplier's o	deta	ails
Company name of supplier	:	BLUE CUBE OPERATIONS LLC
Address	:	190 CARONDELET PLAZA, SUITE 1530 CLAYTON MO 63105-3467
Telephone	:	(844) 238-3445
E-mail address	:	INFO@OLIN.COM
24-Hour Emergency Contact	:	+1 800 424 9300
Local Emergency Contact Identified uses	:	1-800-424-9300 Used in applications such as: Powder coating.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR
1910.1200)
Compustible dust

Combustible dust

GHS label elements Signal Word	:	Warning
Hazard Statements	:	May form combustible dust concentrations in air.
Other hazards None known.		
SECTION 3. COMPOSITION/IN	NFORM	IATION ON INGREDIENTS
Substance / Mixture	:	Substance
Substance name	:	Phenol, 4,4'-(1-methylethylidene)bis-, pol-ymer with 2,2'-[(1- methylethylidene)bis(4,1-phenyleneoxymeth- ylene)]bis[oxirane]
CAS-No.	:	25036-25-3
Synonyms	:	Polymer



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-	ponents				
	nical name		CAS-No.		Concentration (% w/w)
polym methy	ol, 4,4'-(1-methylethylide her with 2,2'-[(1- ylethylidene)bis(4,1- yleneoxymethylene)]bis[,			100
SECTION	4. FIRST AID MEASUF	RES			
lf inha	aled	:	Move person to	fresha	air; if effects occur, consult a physician.
In cas	se of skin contact	:	Wash off with p	enty o	f water.
In cas	se of eye contact	:	the first 1-2 min tes. Only mech	utes th anical	of water; remove contact lenses after en continue flushing for several minu- effects expected. If effects occur, con- rably an ophthalmologist.
lf swa	llowed	:	: If swallowed, seek medical attention. Do not induce vomiting unless directed to do so by medical personnel.		
	important symptoms ffects, both acute and ed	:	measures(abov	e)any a	ation found under Description of first aid additional important symptoms and ef- Section 11: Toxicology Information.
Prote	ction of first-aiders	:	If potential for e personal protec		e exists refer to Section 8 for specific uipment.
Notes	to physician	:		posure	e should be directed at the control of ical condition of the patient.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water fog or fine spray. Dry chemical fire extinguishers. Carbon dioxide fire extinguishers. Foam.
Unsuitable extinguishing media	:	No information available.
Specific hazards during fire fighting	:	Pneumatic conveying and other mechanical handling opera- tions can generate combustible dust. To reduce the potential for dust explosions, do not permit dust to accumulate. Dense smoke is emitted when burned without sufficient oxy- gen.
Hazardous combustion prod- ucts	:	During a fire, smoke may contain the original material in addi- tion to combustion products of varying composition which may be toxic and/or irritating. Combustion products may include and are not limited to: Phenolic compounds. Carbon monoxide.



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			Carbon dioxide.		
Further information		:	 Keep people away. Isolate fire and deny unnecessary entry. Soak thoroughly with water to cool and prevent re-ignition. If material is molten, do not apply direct waterstream. Use fine water spray or foam. Cool surroundings with water to localize fire zone. Hand held dry chemical or carbon dioxide extinguishers may be used for small fires. Contain fire water run-off if possible. Fire water run-off, if no contained, may cause environmental damage. Review the 'Accidental Release Measures' and the 'Ecologi Information' sections of this (M)SDS. 		
Special protective equipment for fire-fighters		:	(SCBA) and prote ting helmet, coat, Avoid contact with If contact is likely, clothing with self- available, wear fu contained breathi location. For protective equ	ssure self-contained breathing apparatus active fire fighting clothing (includes fire figh- trousers, boots, and gloves). In this material during fire fighting operations. change to full chemical resistant fire fighting contained breathing apparatus. If this is not Il chemical resistant clothing with self- ing apparatus and fight fire from a remote uipment in post-fire or non-fire clean-up si- he relevant sections.	

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- tive equipment and emer- gency procedures	 Isolate area. Keep unnecessary and unprotected personnel from entering the area. Refer to section 7, Handling, for additional precautionary measures. Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection. Spilled material may cause a slipping hazard.
Environmental precautions	Prevent from entering into soil, ditches, sewers, waterways and/or groundwater. See Section 12, Ecological Information.
Methods and materials for containment and cleaning up	 Remove all sources of ignition. Use non-sparking tools in cleanup operations. Contain spilled material if possible. Material can create slippery conditions. Clean up promptly by sweeping or vacuum. Collect in suitable and properly labeled containers. See Section 13, Disposal Considerations, for additional information.

SECTION 7. HANDLING AND STORAGE

Advice on safe handling	:	Avoid contact with eyes, skin, and clothing. Avoid prolonged or repeated contact with skin.
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			safe handling of p	ing and controlling of dusts are necessary for
Conditions for safe storage		:	: To ensure long-term storage flowability, it is recommended avoid direct sunlight or prolonged periods of high temperatu res. Avoid additional load by stacked pallets. Store in a cool, dry place.	
St	Storage period		24 Months	
Further information on stor- age stability		:	impacting the flow information, please	nditions sintering of this product may occur, vability of the solid product flakes. For more se refer to Olin Technical Bulletin for Sinte- terial or contact us via info@olin.com

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Contains no substances with occupational exposure limit values.

Engineering measures	:	Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit require- ments or guidelines, general ventilation should be sufficient for most operations. Local exhaust ventilation may be necessary for some opera- tions.
Personal protective equipme	ent	
Respiratory protection	:	Respiratory protection should be worn when there is a poten- tial to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experi- enced, or where indicated by your risk assessment process. For most conditions, no respiratory protection should be nee- ded; however, in dusty atmospheres, use an approved parti- culate respirator.
Filter type	:	The following should be effective types of air-purifying respi- rators: Particulate filter.
Hand protection		
Remarks	:	Chemical protective gloves should not be needed when handling this material. Consistent with general hygienic practice for any material, skin contact should be minimized.
Eye protection	:	Use safety glasses (with side shields). If there is a potential for exposure to particles which could



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			cause eye discor	nfort, wear chemical goggles.				
Ski	Skin and body protection		: No precautions other than clean body-covering clothing should be needed.					
SECTIC	ON 9. PHYSICAL AND CH	EMI	CAL PROPERTIE	S				
Ap	Appearance		Flakes					
Co	lor	:	Yellow					
Od	or	:	Odorless					
pН		:	Not applicable					
Me	lting point/range	:	No test data ava	ilable				
Fre	ezing point		Not applicable					
Sot	Softening point		194 - 208 °F / 90 Method: ASTM I					
Boi	iling point/boiling range	:	Not applicable					
Fla	sh point	:	Method: closed (Not applicable (cup decomposes prior to flashing)				
Fla	mmability (solid, gas)	:	May form combu	ustible dust concentrations in air.				
	per explosion limit / Upper nmability limit	:	Not applicable					
Lov flar	wer explosion limit / Lower nmability limit	:	Not applicable					
Va	por pressure	:	Not applicable					
Re	lative vapor density	:	Not applicable					
Re	lative density	:	1.18 Method: Literatu	re				
	lubility(ies) Water solubility	:	Insoluble					
	rtition coefficient: n- anol/water	:	No data availabl	е.				
Aut	toignition temperature	:	Not applicable					



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Decon	nposition temperature	:	No test data ava	ilable
	ity cosity, dynamic sive properties	:	Not applicable No test data ava	ilable
Oxidizing properties Molecular weight		:	No test data available Not determined	
Particle size		:	Not determined	

Note: These are the Reference Points for these Physical Properties listed above, unless otherwise noted in their respective Physical Property value information: Boiling Point at 760 mmHg; Evaporation Rate Butyl Acetate = 1; Relative Vapor Density Air = 1; and Relative Density Water = 1. NOTE: The physical data presented above are typical values and should not be construed as a specification.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No specific data available.
Chemical stability	:	Stable under recommended storage conditions. See Storage, Section 7.
Possibility of hazardous reac- tions	:	Will not occur by itself. Masses of more than one pound (0.5 kg) of product plus an aliphatic amine will cause irreversible polymerization with considerable heat build-up.
Conditions to avoid	:	Exposure to elevated temperatures can cause product to de- compose.
Incompatible materials	:	Avoid contact with: Acids. Bases. Avoid unintended contact with amines.
Hazardous decomposition products	:	Decomposition products depend upon temperature, air supply and the presence of other materials. Uncontrolled exothermic reaction of epoxy resins release phenolics, carbon monoxide, and water.

SECTION 11. TOXICOLOGICAL INFORMATION

Acute toxicity

Components:

Phenol, 4,4'-(1-methylethylidene)bis-, polymer with 2,2'-[(1-methylethylidene)bis(4,1phenyleneoxymethylene)]bis[oxirane]: Acute oral toxicity

: LD50 (Rat): > 2,000 mg/kg



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		Assessmen	t: The substance or mixture has no acute oral toxicity	
Acute	inhalation toxicity	: Remarks: Th	e LC50 has not been determined.	
Acute dermal toxicity			LD50 (Rabbit): > 2,000 mg/kg Assessment: The substance or mixture has no acute dermal toxic ty	
Skin	corrosion/irritation			
<u>Comp</u>	<u>oonents:</u>			
	ol, 4,4'-(1-methylethy yleneoxymethylene)		ner with 2,2'-[(1-methylethylidene)bis(4,1-	
Result		: No skin irrita		
Remar	rks	: Essentially n	onirritating to skin.	
Serio	us eye damage/eye i	rritation		
Comp	oonents:			
	ol, 4,4'-(1-methylethy yleneoxymethylene)		ner with 2,2'-[(1-methylethylidene)bis(4,1-	
Result Rema		Corneal inju	slight temporary eye irritation. ıry is unlikely. st may cause irritation or corneal injury due to me	
Resp	iratory or skin sensi	ization		
Com	oonents:			
Phen			ner with 2,2'-[(1-methylethylidene)bis(4,1-	
Rema	arks	: For skin sei No relevant	nsitization: data found.	
Rema	arks		ory sensitization: data found.	
Germ	cell mutagenicity			
Comp	oonents:			
	ol, 4,4'-(1-methylethy		ner with 2,2'-[(1-methylethylidene)bis(4,1-	
pheny	yleneoxymethylene)	bis[oxirane]:		



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Carci	nogenicity		
<u>Com</u>	oonents:		
	ol, 4,4'-(1-methyleth yleneoxymethylene)		r with 2,2'-[(1-methylethylidene)bis(4,1-
Remai			resin did not cause cancer in long-term animal stu
IARC			sent at levels greater than or equal to 0.1% i or confirmed human carcinogen by IARC.
OSH/		nent of this product pr list of regulated carc	esent at levels greater than or equal to 0.1% inogens.
NTP			sent at levels greater than or equal to 0.1% i ted carcinogen by NTP.
Repro	oductive toxicity		
<u>Produ</u> Effect	uct: s on fertility	: Remarks: No re	elevant data found.
<u>Com</u>	oonents:		
	ol, 4,4'-(1-methyleth yleneoxymethylene)		r with 2,2'-[(1-methylethylidene)bis(4,1-
-	s on fertility		elevant data found.
Effect	s on fetal developme	nt : Remarks: No re	elevant data found.
стот	-single exposure		
Com	oonents:		
	ol, 4,4'-(1-methyleth yleneoxymethylene)		r with 2,2'-[(1-methylethylidene)bis(4,1-
Asses	ssment	: Evaluation of an STOT-SE	available data suggests that this material is i toxicant.
Repe	ated dose toxicity		
<u>Com</u>	oonents:		
	ol 44'-(1-methyleth		r with 2,2'-[(1-methylethylidene)bis(4,1-
	yleneoxymethylene)]bis[oxirane]:	



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Aspi	ration toxicity		
<u>Com</u>	ponents:		
phen	nol, 4,4'-(1-methyleth yleneoxymethylene) d on physical propertion]bis[oxirane]:	r with 2,2'-[(1-methylethylidene)bis(4,1- aspiration hazard.
SECTION	12. ECOLOGICAL IN	FORMATION	
Ecot	oxicity		
Prod	uct:		
Ecot	oxicology Assessme	ent	
Acute	e aquatic toxicity	: This product ha	s no known ecotoxicological effects.
Chron	nic aquatic toxicity	: This product ha	s no known ecotoxicological effects.
<u>Com</u>	ponents:		
	nol, 4,4'-(1-methyleth) Nyleneoxymethylene)		with 2,2'-[(1-methylethylidene)bis(4,1-
Toxic	ty to fish		xpected to be acutely toxic, but may cause adverse cal/mechanical means.
Pers	istence and degrada	bility	
<u>Com</u>	ponents:		
	nol, 4,4'-(1-methyleth) Nyleneoxymethylene)		with 2,2'-[(1-methylethylidene)bis(4,1-
Biode	egradability	sunlight.	ce photodegradation is expected with exposure to
		No appreciable	biodegradation is expected.
Bioa	ccumulative potentia	al	
Com	ponents:		
	nol, 4,4'-(1-methyleth yleneoxymethylene)		with 2,2'-[(1-methylethylidene)bis(4,1-
	ion coefficient: n- ol/water	: Remarks: In the remain in the so	terrestrial environment, material is expected to il.
Mobi	ility in soil		
<u>Com</u>	ponents:		
	nol, 4,4'-(1-methyleth) Nyleneoxymethylene)		with 2,2'-[(1-methylethylidene)bis(4,1-
Distri	bution among environ- al compartments		aquatic environment, material will sink and remain



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Other adverse effects

Components:

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Results of PBT and vPvB as-	:	This substance has not been assessed for persistence, bioaccumula-
sessment		tion and toxicity (PBT).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues	: AS YOUR SUPPLIER, WE HAVE NO CONTROL OVER THE MANAGEMENT PRACTICES OR MANUFACTURING PROCESSES OF PARTIES HANDLING OR USING THIS MATERIAL.
	THE INFORMATION PRESENTED HERE PERTAINS ONLY
	TO THE PRODUCT AS SHIPPED IN ITS INTENDED
	CONDITION AS DESCRIBED IN MSDS SECTION: Composi-
	tion Information.
	All disposal practices must be in compliance with all Federal,
	State/Provincial and local laws and regulations.
	Regulations may vary in different locations.
	Waste characterizations and compliance with applicable laws
	are the responsibility solely of the waste generator.
	DO NOT DUMP INTO ANY SEWERS, ON THE GROUND,
	OR INTO ANY BODY OF WATER.
	FOR UNUSED & UNCONTAMINATED PRODUCT, the pre-
	ferred options include sending to a licensed, permitted:
	Incinerator or other thermal destruction device.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG Not regulated as a dangerous good

IATA-DGR Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

Not applicable for product as supplied.

Domestic regulation

49 CFR

Not regulated as a dangerous good





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-	ial precautions for upplicable	Iser	
ECTION	15. REGULATORY I	NFORMATION	
SAR	A 302 Extremely Haz	ardous Substan	ces Threshold Planning Quantity
This	material does not con	tain any compone	ents with a section 302 EHS TPQ.
SAR	A 311/312 Hazards	: Combusti	ble dust
SAR	SARA 313		erial does not contain any chemical components with AS numbers that exceed the threshold (De Minimis) levels established by SARA Title III, Section 313.
US S	tate Regulations		
Penn	sylvania Right To K Benzene	now	71-43-2
	national Regulations real Protocol	5	: Not applicable
Rotte	rdam Convention (Pri	or Informed Cons	ent) : Not applicable
Stock	holm Convention (Pe	rsistent Organic F	Pollutants) : Not applicable
The i	ngredients of this p	roduct are report	ted in the following inventories:
TCSI	•	: All intention	onal components are listed on the inventory, are or are supplier certified.
TSC	Ą		nces listed as active on the TSCA Inventory or are ed to be listed.
AIIC			onal components are listed on the inventory, are or are supplier certified.
DSL			nces contained in this product are listed on the Domestic Substances List (DSL) or are not require d.
ENC	3		onal components are listed on the inventory, are or are supplier certified.
ISHL			onal components are listed on the inventory, are or are supplier certified.
KECI			onal components are listed on the inventory, are or are supplier certified.
PICC	S		onal components are listed on the inventory, are or are supplier certified.



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			exempt, or are su	upplier certified.
NZIoC		:	All intentional components are listed on the inventory, are exempt, or are supplier certified.	
CH INV		:	All intentional components are listed on the inventory, are exempt, or are supplier certified.	
TECI		:	All intentional components are listed on the inventory, are exempt, or are supplier certified.	

TSCA list

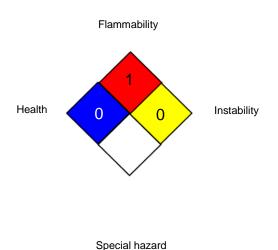
No substances are subject to a Significant New Use Rule.

No substances are subject to TSCA 12(b) export notification requirements.

SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC



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- International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods: IMO - International Maritime Organization: ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

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BLUE CUBE OPERATIONS LLC urges each customer or recipient of this (M)SDS to study it carefully and consult appropriate expertise, as necessary or appropriate, to become aware of and understand the data contained in this (M)SDS and any hazards associated with the product. The information herein is provided in good faith and believed to be accurate as of the effective date shown above. However, no warranty, express or implied, is given.Regulatory requirements are subject to change and may differ between various locations. It is the buyer's/user's responsibility to ensure that his activities comply with all federal, state, provincial or local laws. The information presented here pertains only to the product as shipped. Since conditions for use of the product are not under the control of the manufacturer, it is the buyer's/user's duty to determine the conditions necessary for the safe use of this product. Due to the proliferation of sources for information such as manufacturer-specific (M)SDSs, we are not and cannot be responsible for (M)SDS obtained from any source other than ourselves. If you have obtained an (M)SDS from another source or if you are not sure that the (M)SDS you have is current, please contact us for the most current version.

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