## **Safety Data Sheet**

Revision date: 04.04.2015 Date of issue: 30.03.2015

Sr. No.	Title of the section	Information required in this section			
1.		-			
1.		f the mixture & of the company			
1.1	Identification of the substance or preparation	1.1.1 Trade Name: Dicamba DGA 4 ABN: Di-Cash DGA-4 1.1.2 Product Registration No.: 83529-35			
1.2	Use of the substance/ preparation	1.2.1 Recommended uses:  ✓ Herbicide 1.2.2 Restricted uses: Not known as on date			
1.3	Company/ under - taking identification	1.3.1 Company name: Sharda USA LLC 1.3.2 Contact Person: Sharon Gunning, Director, Supply Chain and Administrative Operations 1.3.3 Manufacturing site address: Universal Cooperatives, Inc. 1253 Independence Dr, Napoleon OH 43545 1.3.4 Telephone number: +91 22 5678 2800 1.3.5 Fax number: +91 22 5678 2828, +91 22 5678 2808 1.3.6 E-mail: shardain@vsnl.com; WEBSITE: http://www.shardausa.com			
1.4	Emergency telephone	1.5.1 Emergency telephone number: 1(800) 222-1222 CHEMTREC PHONE: 1(800) 424-9300 1.5.2 Telephone number of USA importer: (610) 350-6930 1.5.3 Opening hours: 24 hrs			
2.	Hazard Identification				
2.1	Classification of the substance according to Regulation 1910.1200 [GHS]	Classification: Eye Irrit. 2, Skin irrit. 2, Acute Tox. 4 – Oral, Skin Sensitization 1, Acute Tox. 2 – Inhalation, STOT SE 3, STOT RE 1  Hazard statement:  • H319 – Causes serious eye irritation • H315 – Causes skin irritation • H302 – Harmful if swallowed • H317 – May cause an allergic skin reaction • H330 – Fatal if inhaled • H335 – May cause respiratory irritation • H372 – Cause damage to organs through prolonged or repeated exposure  Signal Word: Danger  Hazard pictograms:  GHS07 GHS08 GHS06  Precautionary statements:  P264 – Wash face, hands and any exposed skin thoroughly after handling P280 – Wear protective gloves/ protective clothing/eye protection/face protection. P330 – Rinse mouth P301 + P312 – IF SWALLOWED: Call a POISON CENTER or doctor/physician if you feel unwell.  P337 + P313 - If eye irritation persists: Get medical advice/attention. P501 – Dispose of contents/ container in accordance with local/ regional/national/international regulation P302 + P352 – IF ON SKIN: Wash with plenty of soap and water. P332 + P313 – If skin irritation occurs: Get medical advice/attention P321 – Specific treatment (Reference to supplemental first aid instruction on the label). P362 – Take off contaminated clothing and wash before reuse.			

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		P261 – Avoid breathing dust/fume/gas/mist/vapours/ spray. P272 – Contaminated work clothing should not be allowed out of the workplace.				
		P333 + P313 – If skin irritation or rash occurs: Get medical advice/attention.				
		P405 – Store locked up.				
		P270 – Do not eat, drink or smoke when using this product.				
		P314 – Get medical advice/ attention if you feel unwell.				
		P363 - V	P363 – Wash contaminated clothing before reuse.			
		P284 – V	Wear respiratory p	protection		
				a POISON CENTER or doctor/physician.		
		P320 – Specific treatment is urgent (see if immediate administration of antidote is required on				
		this label).				
		P312 – Call a POISON CENTER or doctor/physician if you feel unwell.				
		P403 + I	P403 + P233 – Store in a well-ventilated place. Keep container tightly closed.			
		P260 – I	Do not breathe du	st/fume/ gas/mist/vapours/spray.		
		P271 – U	Use only outdoors	s or in a well-ventilated area.		
		P304 + I	P340 – IF INHAL	LED: Remove victim to fresh air and keep at rest in a position		
		comforta	able for breathing			
		Hazard R	atings : NFPA			
		Health: 4				
		Flammabil	lity: 0	4 HEALTH 0		
		Reactivity	: 0	O ELAMMARILITY		
2.2	Other Information			© REACTIVITY 4 0		
			atings : HMIS	PROTECTIVE		
		Health: 4		EQUIPMENT		
		Flammabil		EQUI IIIEITI		
		Reactivity	: 0			
3.	Composition /Inform	nation on Ir	ngredients			
		List of raw	materials in the	mixture with hazardous/ non-hazardous additional		
		Componer	nts:			
		%	CAS no.	Substance name		
3.1	Composition	Conc.				
3.1		40.1%	104040-79-1	Dicamba Tech.		
		19.25%	929-06-6	2-(2-aminoethoxy) ethanol		
		0.0005	3844-45-9	FD&C Blue 1		
		40.65	7732-18-5	Water		
3.2	Common name and synonyms	Details not	Details not known			
<del>                                     </del>						
	Classified Impurities and					
	stabilizing					
3.3	additives	No major l	known impurity h	ave Carcinogen, Mutagen & Reprotoxic (CMR) classification which		
3.3	contributing to	can contrib	oute to the Classif	fication & Labelling of the chemical.		
	classification of					
	the chemical					
	the chemical					
4.			Measures			
	First Aid Measures					
	First Aid Measures	- Inhalatio		rce of contamination or move victim to fresh air. Keep victim warm		
	First Aid Measures	- Inhalatio	and at rest. T	rce of contamination or move victim to fresh air. Keep victim warm reat symptomatically and supportively. Obtain medical advice if		
	First Aid Measures		and at rest. T necessary.	reat symptomatically and supportively. Obtain medical advice if		
			and at rest. T necessary. ntact: Remove con	reat symptomatically and supportively. Obtain medical advice if ntaminated clothing, shoes and leather goods. Wash skin gently and		
4.1	Description of first		and at rest. T necessary. ntact: Remove con thoroughly	ntaminated clothing, shoes and leather goods. Wash skin gently and with water and non-abrasive soap. Persons who become sensitised		
4.1		- Skin con	and at rest. T necessary. atact: Remove con thoroughly may require	ntaminated clothing, shoes and leather goods. Wash skin gently and with water and non-abrasive soap. Persons who become sensitised e specialised medical management with anti-inflammatory agents.		
4.1	Description of first	- Skin con	and at rest. T necessary. <b>tact:</b> Remove con thoroughly may require <b>tact:</b> Immediately	ntaminated clothing, shoes and leather goods. Wash skin gently and with water and non-abrasive soap. Persons who become sensitised e specialised medical management with anti-inflammatory agents. If the eyes with gently flowing lukewarm water or saline solution		
4.1	Description of first	- Skin con	and at rest. T necessary. <b>stact:</b> Remove con thoroughly may require <b>tact:</b> Immediately for 20 minute	ntaminated clothing, shoes and leather goods. Wash skin gently and with water and non-abrasive soap. Persons who become sensitised e specialised medical management with anti-inflammatory agents. If flush the eyes with gently flowing lukewarm water or saline solution es, occasionally lifting the upper and lower lids. Specialised		
4.1	Description of first	- Skin con	and at rest. T necessary. <b>stact:</b> Remove con thoroughly may require <b>tact:</b> Immediately for 20 minute ophthalmolog	ntaminated clothing, shoes and leather goods. Wash skin gently and with water and non-abrasive soap. Persons who become sensitised e specialised medical management with anti-inflammatory agents. If the eyes with gently flowing lukewarm water or saline solution		

	Important				
4.2	symptoms & effects	Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident is recommended.			
		Notes for the doctor: No relevant information or antidote available			
4.3	Immediate medical attention	For 24-hour medical emergency assistance (human or animal) call 1-800-222-1222. For chemical emergency assistance (spill, leak, fire, or accident) call ChemTrec at 1-800-424-9300.			
5.	Fire Fighting Measu	ures			
5.1	suitable extinguishing media	Carbon dioxide, extinguishing powder or water spray can be used for cooling of unaffected stock. In case of larger fires, water spray or alcohol resistant foam to be used.			
5.2	Special hazard arising from the chemical	Toxic carbon and nitrogen oxides			
5.3	Special protective equipment and precautions for firefighters	As in any fire, wear full protective clothing and self-contained breathing apparatus with full face piece operated in pressure-demand or other positive pressure mode.			
6.	Accidental Release N				
6.1	Personal precautions, protective	<ul> <li>6.1.1 For non-emergency personnel</li> <li>Personal precautions: Avoid contact with skin and eyes. Do not breathe in fumes.         Ventilate area of spill or leak, especially confined areas. Shut off/remove any ignition sources. For personal protection see Section 8.</li> <li>Environmental precautions: Do not allow to enter drains or water courses. When the product contaminates public waters, inform appropriate authorities immediately in</li> </ul>			
W2	equipment and emergency procedures	accordance with local regulations.  6.1.2 For emergency responders: Use personal protective equipment. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Do not touch the spilled material. Avoid the spread of the spillage by using adsorbents, if this can be done without risks. Ground all equipment containing material.			
6.2	Methods and material for containment and cleaning up	Sweep up with dustpan and brush off inert material. The waste should be held in suitable labeled container.			
6.3	Reference to other section	If appropriate section 8 and 13 shall be referred to			
7.	Handling and Storag	ge			
7.1.	Precautions for safe handling	7.1.1. Recommendations shall be specified to:  Remove sources of naked flame or sparks. Avoid contact with eyes, prolonged contact with skin, and inhalation of fumes and spray particles. Use with adequate ventilation. Do not apply directly to areas where surface water is present. Water used to clean equipment must be disposed of correctly to avoid contamination.			
		7.1.2. Advice on general occupational hygiene:  (a) not to eat, drink and smoke in work areas  (b) to wash hands after use; and  (c) To remove contaminated clothing and protective equipment before entering eating areas			
7.2	Conditions for safe storage, including any incompatibilities	<ul> <li>(a) How to manage risks associated with storage:</li> <li>No special storage condition indicated</li> <li>(b) Other advice including: Do not contaminate water, food, or feed by storage or disposal.</li> <li>Store in cool place. Keep container tightly closed in a dry and well-ventilated place.</li> </ul>			

8.1 Components with limit values that require monitoring at the workplace    Control   Threshold limit value (TLV)    - Time-weighted average (TWA) = NA	e
parameters - Time-weighted average (TWA) = NA	
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at the company and the company	
- Short-term exposure limit (STEL) = NA  8.2 Exposure controls	
The description of appropriate exposure control measures shall relate to the	e identified use(s) of
Appropriate the substance or mixture as referred to in subsection 1.2. This information	
engineering controls engineering controls	alth of workers arising
from the presence of the substance.	
(a) Eye / face protection: Wear appropriate protective eyeglasses, splash	goggles or chemical
safety goggles and face shield.	
(b) Skin protection: Wear appropriate protective clothing like impervious coveralls.	lab coat, apron or
(i) Hand protection: Use compatible chemical / solvent resistant protection	tective gloves made of
suitable materials like rubber, plastic, etc,	dective gloves made of
Individual	
8.2.2 protection measures	
(ii) Other: Wear appropriate boots and other footwear.	
(c) Respiratory protection: In case of brief exposure or low pollution, use	
device. In case of intensive or longer exposure, use self-con	
protective device. Short term filter device: Filter AX. In case a NIOSH approved respirator with any N, R, P, or HE is	
use a recontrapproved respirator with any re, re, re, or right	inter.
(d) General protective and hygienic measures:	
Keep away from foodstuffs, beverages and feed.	
Immediately remove all soiled and contaminated clothing.	
Wash hands before breaks and at the end of work.	
• Store protective clothing separately.	
9. Physical & Chemical Properties	
(a) Appearance: light beige coloured fluid	
(b) Odour: Characteristic	
(c) Initial boiling point and boiling range: 497.6°C at 760 mmHg	
Information on (d) Flash point: 99°C	
9.1 basic physical and (e) Vapour pressure : 1.01E-10mmHg at 25°C	
(f) Density: 1.22g/cm <sup>3</sup> (20 C <sup>0</sup> )	
properties (g) pH value: 7.0 (no dilution)	
(h) Solubility(ies): in water: miscible with water in any proportion	
(i) Explosive properties: None	
(j) Oxidising properties: Not available	
9.2 Other information NO further relevant information available	
10. Stability and Reactivity	
10.1 Reactivity Not known	
10.2 Chemical stability Stable at normal temperature and pressure	

10.3	Possibility of hazardous reactions	No information known			
10.4	Conditions to avoid	Avoid temperat	Avoid temperatures above 150°F and below 20° F. High temperature, sunlight, frost		
10.5	Incompatible materials	Strong oxidizing agents			
10.6	Hazardous decomposition products	Thermal decomposition may release toxic oxides of nitrogen and carbon and toxic and corrosive fumes of bromides			
11.	Toxico-logical Infor	mation			
11.1	Information on toxicological effects	(b) skin corrosic (c) serious eye (d) respiratory (e) Carcinogeni (g) reproductive (h) STOT-singl	ty: Acute oral toxicity (inhalation – 2; oral - 4) on/irritation: Skin Corrosion 1B damage/irritation: Eye Damage 1 or skin sensitization: Skin sensitizing 1 city: no known evidence e toxicity: no known evidence e exposure: STOT SE 3 ted exposure: STOT RE 1		
11.2	Numerical measures of toxicity (such as acute toxicity estimates)	104040- 79-1 929-06-6 I I I I	No Toxicological data available in public domain  Acute Toxicity:  Oral – LD50 (rat) = 5660 mg/kg  Dermal – LD50 (rabbit) = 1190 mg/kg  Irritation effect:  Skin: Irreversible severe erythema (including necrosis, sloughing, fissuring) and severe edema is observed 30 min after 4h exposure. The skin damage remained hroughout the study (14d). The test article was considered to be a severe dermal rritant at both 4 and 24 hour exposures.  Eyes: The application of the test substance caused moderate to severe corneal opacity, iritis, moderate erythema and slight to moderate chemosis. At the end of the observation period after 8 days staphyloma and severe corneal opacity were noted. Severe corneal opacity, is considered to be an irreversible		
11.3	Chemical if, listed in NTP or IARC or by OSHA as Carcinogens	effect to ophthalmic tissue.  The mixture is not a listed carcinogen  Diquat dibromide is not classified as a tumor-causing chemical. An 80-week feeding study showed that dietary doses of 15 mg/kg/day of diquat dibromide did not cause tumors in rats. Likewise, dietary levels of 36 mg/kg/day for two years did not induce tumors in rats			
11.4	Additional information	Product shows following danger according to internally approved calculation methods for preparation  Very Toxic  Dangerous for the environment			
12.	Ecological Informa	tion			
12.1	Eco – Toxicity	CAS no. 104040-79-1 929-06-6	Aquatic toxicity values  Fish 96-hr LC50 = 15020.275 mg/L Daphnid 48-hr LC50 = 6723.189 mg/L Green Algae 96-hr EC50 = 1223.988 mg/L  Fish 96-hr LC50 = 1.58e+005 mg/L Daphnid 48-hr LC50 = 56813.773 mg/L Green Algae 96-hr EC50 = 4971.204 mg/L		

		CAS no.	Persistence and degradability	
12.2	Persistence and degradability	929-06-6	Biowin1 (Linear Model Prediction): Biodegrades Fast Biowin2 (Non-Linear Model Prediction): Does Not Biodegrade Fast Biowin3 (Ultimate Biodegradation Timeframe): Weeks-Months Biowin4 (Primary Biodegradation Timeframe): Days-Weeks Biowin5 (MITI Linear Model Prediction): Biodegrades Fast Biowin6 (MITI Non-Linear Model Prediction): Does Not Biodegrade Fast Biowin7 (Anaerobic Model Prediction): Biodegrades Fast Ready Biodegradability Prediction: NO Ready Biodegradability Prediction: Does Not Biodegrade Fast Biowin1 (Linear Model Prediction): Biodegrades Fast Biowin2 (Non-Linear Model Prediction): Biodegrades Fast Biowin3 (Ultimate Biodegradation Timeframe): Weeks Biowin4 (Primary Biodegradation Timeframe): Days Biowin5 (MITI Linear Model Prediction): Biodegrades Fast Biowin6 (MITI Non-Linear Model Prediction): Biodegrades Fast Biowin7 (Anaerobic Model Prediction): Biodegrades Fast Biowin7 (Anaerobic Model Prediction): Biodegrades Fast Biowin7 (Anaerobic Model Prediction): Biodegrades Fast	
		CAS no.	BCF	
12.3	Bio accumulative potential	929-06-6	Log BCF (regression-based estimate): 0.50 (BCF = 3.16 L/kg wet-wt) Biotransformation Half-Life (days): 0.401 (normalized to 10 g fish) Log BAF (Arnot-Gobas upper trophic): -0.01 (BAF = 0.973 L/kg wet-wt) Log Kow (experimental): not available from database Log Kow used by BCF estimates: -0.10 Equation Used to Make BCF estimate: Log BCF = 0.50 (Ionic; Log Kow dependent) Estimated Log BCF = 0.500 (BCF = 3.162 L/kg wet-wt)  Equation Used to Make BCF estimate: Log BCF = 0.50 Correction(s): Value Correction Factors Not Used for Log Kow < 1 Estimated Log BCF = 0.500 (BCF = 3.162 L/kg wet-wt)	
12.4	M-1-224	CAS no.	Soil Mobility	
12.4	Mobility in soil	104040-79-1	Soil Koc: 10 (KOCWIN MCI method)	
12.5	General information	929-06-6   Estimated Koc: 0.2269 L/kg		
13.	Disposal Considerat	erations		
13.1	Waste treatment methods	<ul> <li>(a) Waste treatment containers and methods: Waste treatment containers and methods shall be specified including the appropriate methods of waste treatment of both the substance or mixture and any contaminated packaging (for example, incineration, recycling, land filling)</li> <li>(b) Physical/chemical properties: Physical/chemical properties that may affect waste treatment options shall be specified</li> <li>(c) Sewage disposal: Sewage disposal shall be discouraged</li> <li>(d) Special precautions: Where appropriate, any special precautions for any recommended waste treatment option shall be identified.</li> </ul>		
13.2	Additional information:	Any relevant Community provisions relating to waste shall be referred to. In their absence any relevant national or regional provisions in force shall be referred to.		
14.	Transport Informat			
	Information		er : Not applicable	
	includes RID,	14.2. UN proper shipping name: Not applicable		

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	ADR, AND,	14.3. Transport hazard class(es): Not applicable		
	ICAO, DOT,	14.4. Packing group: Not applicable		
	IMDG, IATA- DGR	14.5. Environmental hazards (e.g., Marine pollutant (Yes/No)) : No		
	DOK	14.6. Special precautions for user: Not applicable		
		14.7. Transport in bulk according to Annex II of MARPOL 73/78 and IBC Code: Not applicable		
15.	Regulatory Informa			
15.	Regulatory Illiorina	<del></del>		
15.1	Safety, health and environmental regulations/other legislations	<ul> <li>Product related hazard information: The product has been classified and marked in accordance with directives on hazardous materials</li> <li>Hazard statements:         <ul> <li>Causes moderate eye irritation.</li> <li>Harmful if swallowed or absorbed through skin.</li> <li>Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.</li> </ul> </li> <li>Signal word – CAUTION</li> <li>Precautionary statements:         <ul> <li>Avoid contact with eyes, skin, or clothing.</li> <li>Wear protective eyewear (goggles or face shield).</li> <li>Wash thoroughly with soap and water after handling.</li> <li>Remove contaminated clothing and wash clothing before reuse.</li> </ul> </li> <li>Other regulations: Listed /not listed within the following regulation         <ul> <li>Sara - section 355 (extremely hazardous substance): none of the ingredients are listed.</li> <li>Sara - section 313 (specific toxic chemical listing): none of the ingredients are listed</li> <li>TSCA: listed: CAS no.: 929-06-0 and 7732-18-5</li> <li>Proposition 65 (chemical known to cause cancer): none of the ingredients are listed</li> <li>Proposition 65 (chemical known to cause reproductive toxicity for females/ males): none of the ingredients are listed</li> <li>Carcinogenic categories (EPA): none of the ingredients are listed</li> <li>NIOSH – Ca (National Institute of Occupational Health and Safety): none of the ingredients are listed</li> <li>OSHA – Ca (Occupational Health and Safety Administration): none of the ingredients are listed</li> </ul> </li> </ul>		
16.	Other Information	are instead		
16.1	Indication of changes	Section 1: Identification of the substance/mixture and of the company/undertaking Section 2: Hazard Identification - Changes in Classification and Labelling. Section 3: Composition /Information on Ingredients Section 5: Fire-fighting measures Section 6: Accidental Release measures Section 7: Handling and storage. Section 8: Exposure Controls/Personal protection. Section 9: Physical and Chemical properties. Section 10: Stability and Reactivity. Section 11: Toxicological Information. Section 12: Ecological Information. Section 14: Transport labeling		
16.2	Abbreviations and acronyms	<ul> <li>Section 15: Regulatory Information</li> <li>OSHA: Occupational Safety and Health Administration</li> <li>GHS: Globally harmonized system on classification and labelling</li> <li>TWA: Time Weighted Average</li> <li>STEL: Short Term Exposure Limit</li> <li>PEL: Permissible Exposure Limits</li> <li>ACGIH: American Conference of Governmental Industrial Hygienists</li> <li>NIOSH: National Institute for Occupational Safety and Health</li> <li>TLV: Threshold Limit Value</li> <li>MARPOL: Marine pollution</li> <li>IBC Code: International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk</li> </ul>		

		IARC: International Agency for Research on Cancer
		NTP: National Toxicology Program
		CAS: Chemical Abstracts Service (division of the American Chemical Society)
		• LC50: Lethal concentration, 50 percent
		• LD50: Lethal dose, 50 percent
		IMDG: International Maritime Code for Dangerous Goods IATA: International Air Transport Association
		IATA-DGR: Dangerous Goods Regulations by the "International Air Transport
		Association" (IATA) ICAO: International Civil Aviation Organization
		ICAO-TI: Technical Instructions by the "International Civil Aviation Organization"
		Sara : Superfund Amendments and Reauthorization Act
		WEEL: Workplace Environmental Exposure Level
		http://www.lookchem.com/cas-104/104040-79-1.html
		http://www.chemicalbook.com/ProdSupplierGWCB9503236_EN.htm
		http://www.chemnet.com/dict/dict104040-79-1en.html
		http://chem.sis.nlm.nih.gov/chemidplus/rn/104040-79-1
		http://actor.epa.gov/actor/GenericChemical?casrn=104040-79-1
		<ul> <li>http://apps.echa.europa.eu/registered/data/dossiers/DISS-9e9d4fc2-ceea-3e7f-e044-</li> </ul>
		00144f67d031/AGGR-a11d3128-2007-48bf-967d-abcb7221625d_DISS-9e9d4fc2-ceea-
		3e7f-e044-00144f67d031.html#ADMIN_DATA
	Key literature	<ul> <li>http://www.pesticideinfo.org/Detail_Chemical.jsp?Rec_Id=PC33217</li> </ul>
16.3	references and	http://www.speclab.com/compound/c85007.htm
-3.5	sources for data	http://edis.ifas.ufl.edu/pdffiles/SS/SS56900.pdf
		• Toxnet
		http://extoxnet.orst.edu/pips/diquatdi.htm
		http://pmep.cce.cornell.edu/profiles/extoxnet/dienochlor-glyphosate/diquat-ext.html
		http://www.inchem.org/documents/hsg/hsg/hsg052.htm#SectionNumber:1.2
		<ul> <li>http://www.cdc.gov/niosh/ipcsneng/neng1363.html [Accessed 83110].</li> <li>Pesticide Action Network North America. Diquat Dibromide.</li> <li>http://www.chemnet.com/cas/en/85-00-7/Diquat.html</li> </ul>

Disclaimer: This product is a registered agricultural chemical and must therefore be used in accordance with the container label directions. The information above is believed to be accurate and represents the best information currently available to us. No representation, guarantee or warranties of any kind are made as to its accuracy, suitability for a particular application or results to be obtained from them. This SDS shall be used as a guide only. Users should make their own investigations to determine the suitability of the information for their particular purposes. Consult Sharda USA LLC for further information.