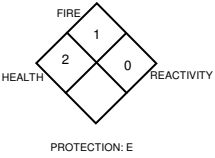


## MATERIAL SAFETY DATA SHEET

Revision date: May 2019

1	<b>Identification</b>	Manufacturer Name	Nikita Transphase Adducts (P) Ltd, T-96 Tarapur MIDC, Boisar, 401 506, India Office: +91.22.2444 0141 / +91.22.2444 0142
		Product Name	Toxishield DS (Denatonium Saccharide)
		Trade Name(s)	ToxiShield-DS, Denatonium Saccharide
		Chemical Name	Benzyl-diethyl [(2,6-xylyl-carbamoyl) methyl] ammonium saccharide, Denatonium Saccharide
		Chemical Formula	C <sub>28</sub> H <sub>34</sub> N <sub>2</sub> O <sub>3</sub> S
		Mol Wt	507.6
2	<b>Composition Information on Ingredients</b>	Ingredient Name	Denatonium Saccharide
		Percentage	> 99%
		CAS Number	90823-38-4
3	<b>Hazards Identification</b> 	Emergency Overview	EXTREMELY BITTER. Causes moderate to severe oral irritation. In confined area dust may cause headache.
		Potential Health Effects	Short Term
		Inhalation	May cause irritation to upper respiratory track.
		Skin	May cause mild irritation/redness.
		Eye	May cause irritation/redness.
		Ingestion	May cause irritation, nausea, vomiting may occur.
		4	<b>First Aid Measures</b>
Skin	Remove contaminated clothing. Wash exposed areas immediately and thoroughly with mild soap and water.		
Eye	Do not rub eyes. Flush thoroughly with water. If irritation persists consult doctor.		
Ingestion	If possible spit out, and clean mouth. Do not induce vomiting. Seek immediate medical help.		
5	<b>Fire Fighting Measures</b>	Flash Point	>170 deg C
		Extinguishing Media	CO <sub>2</sub> , Dry Chemicals, Foam
		Fire Fighting Procedures	During emergency conditions, exposure to thermal decomposition/combustion products may be hazardous. Approved self-contained, fully covered breathing apparatus must be used.
		Usual Fire and Explosion Hazard	When exposed to excessive heat and open flames, will emit irritant fumes and/or smoke. No explosive hazards are expected.
6	<b>Accidental Release Measures</b>	In case of Spillage or Leakage	Handle in area suitable for containment of spills. Mop up with proper equipment. Avoid release to sewers or environment. Place recovered material in properly marked containers for disposal.
7	<b>Handling and Storage</b>	Precautions	Avoid prolonged breathing of dust. Avoid prolonged/repeated dermal exposure. Use in areas with adequate ventilation. Keep from excessive heat, sources of fire or sparks.
		Storage	Keep away from extremely hot areas, and keep containers sealed. Do not leave in open or semi open condition.

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8	<b>Exposure Controls / Personal Protection</b>	Skin	Use appropriate clothing/ impermeable gloves etc to prevent exposure.
		Ventilation	Maintain adequate flow of fresh air to maintain exposure levels minimal.
		Respiration	If adequate ventilation not possible, use approved respiratory protection equipment.
		Eye	Approved goggles to be used at all times.
9	<b>Physical &amp; Chemical Properties</b>	Appearance	White Flowing Powder packed in water soluble bags
		Odor	Odorless
		Solubility in Water	Approx 5-7 ppm at room temperatures
		Melting Pt	174-179 °C
		Specific Gr	0.5-0.7
10	<b>Stability &amp; Reactivity</b>	Materials to Avoid	Acidic media
		Conditions to Avoid	Exposure to humid air may cause clumping.
		Haz Decomposition Products	Normal hydrocarbon combustion products, CO, CO <sub>2</sub> , NO <sub>x</sub> , SO <sub>x</sub>
11	<b>Toxicology</b>	Oral LD50	> 1200 (mg/kg) Rat oral
		Dermal	>2000 (mg/kg)
		Inhalation	> 1500 (mg/kg)
12	<b>Ecological Information</b>		Do not discharge into drains or the environment; dispose to authorized chemical waste collection point.
13	<b>Disposal Consideration</b>		Incinerate in authorized facility or Dispose according to local law.
14	<b>Transport Information</b>	Classification	Not Hazardous for transport (According to the current addition of IATA regulation)
15	<b>Regulatory Information</b>	EC labeling symbols	
		R Phrases	R22 Harmful if swallowed.
		S Phrases	S2 Keep out of the reach of children. S13 Keep away from food, drink and animal feeding stuffs. S24 Avoid contact with skin. S36 Wear suitable protective clothing. S37 Wear suitable gloves. S46 If swallowed, seek medical advice immediately and show this container or label.
16	<b>Other Information</b>		This product is extremely bitter and used as a denaturant for ethanol, meg, antifreeze and several other applications.

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