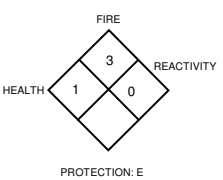


MATERIAL SAFETY DATA SHEET

Revision Date: Jan 2019

1	Identification	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 DB - 25 IA			
		Trade Name(s)	Toxi Shield DB-IA, Denatonium Benzoate IA Solution			
		Chemical Name	Denatonium Benzoate			
		Chemical Formula	C ₂₈ H ₃₄ N ₂ O ₃			
		Mol Wt	146 (avg of mixture)			
2	Composition Information on Ingredients	Ingredient Name	Denatonium Benzoate	Industrial Ethyl Alcohol	Water	Other
		Percentage (wt)	24.5-25.5%	65-70%	<5-7%	<5%
		Molecular wt	446	47	18	-
		CAS Number	3734-33-6	64-17-5	7732-18-5	-
3	Hazards Identification 	Emergency Overview	EXTREMELY BITTER. Flammable. Causes moderate to severe oral irritation. In confined area vapors may cause headache.			
		Potential Health Effects	Short Term		Long Term	
		Inhalation	May cause irritation to upper respiratory track.		Not Available	
		Skin	May cause mild irritation/redness.		Not Available	
		Eye	May cause irritation/redness.		Not Available	
		Ingestion	Data Not Available. Safe to assume irritation, nausea, vomiting may occur.		May cause reproductive and fetal effects. May cause liver, kidney, heart defects.	
4	First Aid Measures	Inhalation	Remove from exposure immediately, and introduce to fresh air.			
		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	Fire Fighting Measures	Flash Point	19 deg C			
		Flammability Limits	IEL : N.A. UEL : N.A.			
		Extinguishing Media	CO ₂ , 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	Accidental Release Measures	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	Handling and Storage	Precautions	Avoid prolonged breathing of vapor. 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. Keep away from oxidizing agents, perchlorates, peroxides, chromic, nitric acids etc.			

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8	Exposure Controls / Personal Protection	Skin	Use appropriate clothing/ impermeable gloves etc to prevent exposure as per OSHA 29 CFR 1910.133 or EU standard EN 166
		Ventilation	Maintain adequate flow of fresh air to maintain exposure levels minimal. Mechanical ventilation recommended.
		Respiration	If adequate ventilation not possible, use approved respiratory protection equipment (OSHA 29 CFR 1910.134 or EU Standard EN 149)
		Eye	Approved goggles to be used at all times.
9	Physical & Chemical Properties	Appearance	Clear Colourless liquid
		Odor	Mild aromatic
		Solubility in Water	100 % Miscible
		Melting Pt	NA
		Boiling Pt	Approx 80 deg C
		Specific Gr	Approx 0.86-0.90
		Initial BP	NA
Vap. Pres	NA		
10	Stability & Reactivity	Materials to Avoid	Strong Oxidisers, Chromic Anhydride, Perchlorates, Perchloric, Nitric, Chromic acids,
		Conditions to Avoid	Heat, Flame, Sparks, Direct Sunlight
		Haz Decomposition Products	Normal hydrocarbon combustion products, CO, CO ₂ , NO _x
11	Toxicology	Oral LD50	> 500 (mg/kg) Rat oral
		Dermal	NA
		Inhalation	NA
12	Ecological Information		If spilled on land, solvent is apt to volatilize and active biodegrade. Rates of biodegradation not known. Fate in ground water is unknown, although safe to assume that it will eventually volatilize and biodegrade. Do not discharge into drains or the environment; dispose to authorized chemical waste collection point.
13	Disposal Consideration		Incinerate in authorized facility or Dispose according to local law.
14	Transport Information	Classification	Hazardous for transport Shipping Name: Ethanol solution (70% solution). Hazard Class : 3 UN No : 1170 Packing Group : II As per IATA
15	Regulatory Information	EC labeling symbols	
		R Phrases	R11 Highly inflammable. R22 Harmful if swallowed.
		S Phrases	S2 Keep out of the reach of children. S13 Keep away from food, drink and animal feeding stuffs. S16 Keep away from sources of ignition. No smoking. S33 Take precautionary measures against static discharges. S36 Wear suitable protective clothing. S37 Wear suitable gloves. S46 If swallowed, seek medical advice immediately and show this container or label.
16	Other Information		This product is extremely bitter and used as a denaturant for ethanol, meg, antifreeze and several other applications.

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