

aska[®]

FastACT

Neutralise Known & Unknown
Toxic Chemicals, Vapours & Gases
And Decontaminate The Equipments

For
HSE / Chemical
Disaster Response
Forces

FASTACT USPs

- ▶ Real time, on-site neutralisation of chemical threats
- ▶ Effective against vapours, fumes and liquids
- ▶ Safe, non toxic, non corrosive
- ▶ Ready to use formulation - no mixing, no water required
- ▶ Wide spectrum toxicity management
- ▶ No residual hazard - easy disposal
- ▶ Mitt has been designed to decontaminate equipments, clothes, weapons, helmets, etc.

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Australian Government
Department of Health
Therapeutic Goods Administration

TGA (Australian Register of Therapeutic Goods Certificate) for Skin Safety



For H2S Neutralisation

TECHNOLOGY

FAST-ACT is a combination of common metal oxides (MgO + TiO₂) with a unique morphology. It has nanomaterial properties with a final particle size of nearly 5µm. The production process creates an altered, non-toxic molecular structure with large increase in porosity and surface area.

HOW DOES IT WORKS ?

Nanomaterials by nature want to agglomerate and because the molecular structure of FAST-ACT is incomplete, it binds to any reactive substance using "ionic bonding". It uses the targeted chemical's ions to try and complete its own structure, as a result many hazardous chemicals are neutralised through a process now known as "destructive adsorption".

The large surface area with numerous corners and edges containing many unsaturated ions make it effective on liquids and vapours of hazardous compounds.

FAST-ACT literally binds and destroys the contacted chemical with a resultant non-hazardous, neutralised by-product.

HCl is converted to MgCl₂ + H₂O

HF is converted to MgF₂ + H₂O

APPLICATION AREAS

- The chemical warfare agents if used in govt buildings or metros or any other places
- To neutralise toxic fumes of fire
- **To neutralise H2S threat on board naval ships & refineries etc.**
- Chlorine and Ammonia leak threats are neutralised
- All known and unknown toxic vapour and chemical threats

TESTED & CERTIFIED BY

- TNO Laboratories, Netherlands
- Battelle Memorial Institute Columbus, OH, USA
- The Edgewood Chemical Biological Center (ECBC), Aberdeen Proving Ground, MD, USA
- Toxicology Unit, School of Medical Sciences, RMIT, Australia
- NATO approved personal decontamination kit and personal Decontamination Apparatus
- Lloyds certified for H2S neutralisation

Capacity	1kg / 2kg / 4kg Decontamination Powder (Nanomaterials) in pressurized vessel	Color and form of material/particles	White dry powder
Operating Pressure of the container	180 - 220 PSI (up to 15 bar)	Powder major ingredient	Dry Chemical powder formulation of non-toxic Nano crystalline metal oxides (primarily TiO ₂ and MgO)
Ruggedness	Shall withstand normal vibrations and shock during handling and transportation without accidental leaks/releases	Gross Weight (including powder)	1kg Nanomaterials + Pressurized Cylinder - 2.7± 10% 2kg Nanomaterials + Pressurized Cylinder - 5.2± 10% 4kg Nanomaterials + Pressurized Cylinder - 8.5± 10%
Discharge time	Not more than 2 min	Test Reports	From TNO, Netherlands/Beattle/SBCCOM/Lloyds for H2S as applicable should be submitted along with offer / tender documents
Pressure gauge	Yes Provided (easy to read)	Life of Decontamination Powder	5 Years from the date of filling of vessel.
Gas used for pressurization	Nitrogen	Hose materials	Rubber with aluminium crimp ends
Discharge Hose & Nozzle	Nozzle that can spray the powder evenly and easily and shall not get corroded/clogged on exposure to chlorinating compounds.		
Container / Vessel	Steel (CRCA Sheet) Duly Epoxy Powder coated from Inside & outside (White). Test pressure: 41 Bar and Burst pressure 81 Bar (Minimum) as per TC of Manufacturer or as per guidelines		

NEUTRALISATION		ADSORPTION	NON EFFECTIVE
CORROSIVE MATERIALS	VAPOUR HAZARDS	LIQUID SOLVENT SPILL	
ACIDS Inorganic and Organic Hydrochloric Acid Hydrofluoric Acid Nitric Acid Phosphoric Acid Sulphuric Acid Acetic Acid Methanesulfonic Acid Ethanesulfonic Acid Benzenesulfonic Acid Toluenesulfonic Acid Hydrogen sulfide (H ₂ S)	HALOGEN / HALIDES Acetyl Chloride Chloroacetyl Chloride Chlorine Chloroform Hydrogen Bromide Cyanogen Chloride Methylene Chloride Carbon Tetrachloride TCE, PCE PHOSPHORUS Pesticides DimethylmethylPhosphnate Paraoxon Parathion SULPHUR 2-Chloroethyl Ethyl Sulfide Methyl Mercaptan	ALCOHOLS / PHENOLS Ethanol Methanol Allyl Alcohol Nitrophenols Chlorophenols CAUSTICS Metal Hydroxides (aq) PETROCHEMICALS Diesel Gasoline Oils OTHERS Acrylonitrile Benzene Hydrazine Toluene Acrolein Methylhydrazine* Methylsocyante*	BIOLOGICALS Bacteria Viruses Spores NUCLEAR RADIOLOGICAL HEAVY METALS SOLID WASTE
BIS (2-CHLOROETHYL) SULFIDE	HALOGENS Chloride Bromine Iodine		
PINACOLYL METHYLPHOSPHONOFUORIDATE	VAPOUR HAZARDS ACIDIC & CAUSTIC GASES Hydrogen Chloride Hydrogen Fluoride Hydrogen Bromide Nox/N2O4 Sulphur Dioxide Hydrogen Sulphide Diborane Hydrogen Selenic Phosphine Ammonia Anhydrous Ammonia Carbon/Sulfide Hydrogen Cyanide		
O-ETHYL S (2-DISSOPROPYLAMINOETHYL) - MET HYLPHOSPHONOTHIOATE	HALOGENS Chloride Bromine Iodine		
CARBONYL COMPOUNDS Aldehydes Ketones Carboxylic Acids	VOLATILE ORGANICS Methyl Mercaption Ethylene Oxide Formaldehyde Phosgene Arsine		
NITROGEN COMPOUNDS Acetonitrile Sodium Cyanide (AQ) 4-Vinylpyridine	CHLORINATED ORGANICS Acetyl Chloride Chloroacetyl Chloride Chloroform Methylene Chloride		
	CHEMICAL WARFARE AGENTS Sulphur Mustard (HD) Tabun (GA) Sarin (GA) Soman (GD) VX		

Note : HDPE vessel recommended for marine applications

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