

# SAFETY DATA SHEET

DQ-TOOL® 0500B



## SECTION 1: Identification of the substance/mixture and of the company/undertaking

**Product name** : DQ-TOOL® 0500B

**Use of the substance/mixture** : Hardener for tooling systems

**Supplier** : Dongguan Dongquan mould material Co.,Ltd.  
No.10 Yihuan Road,Chiling Industria,Dongguan CHINA  
Tel.: +86 0769-85878968  
Fax: +86 0769-88665083

**Emergency telephone number (24h/7day)** : +86 0769-85878968

**e-mail address of person responsible for this SDS** : edmsupply@vip.163.com

## Section 2. Hazards identification

**Classification of the substance or mixture** : SKIN CORROSION/IRRITATION - Category 2  
SERIOUS EYE DAMAGE/ EYE IRRITATION - Category 1  
SKIN SENSITIZATION - Category 1

### GHS label elements

**Signal word** : Danger

**Hazard statements** : Causes skin irritation.  
Causes serious eye damage.  
May cause an allergic skin reaction.

### Precautionary statements

**Prevention** : Wear protective gloves: >8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL), nitrile rubber, neoprene, Polyvinyl Chloride (PVC). Wear eye or face protection. Avoid breathing vapour.

**Response** : IF IN EYES: Rinse cautiously with water for several minutes. Immediately call a POISON CENTER or physician. IF ON SKIN: Rinse skin with water. Take off contaminated clothing. Wash contaminated clothing before reuse.

**Storage** : Keep container tightly closed.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Symbol** :



**Hazardous ingredients** : polyaminoamide adduct; tetraethylenepentamine

## Section 2. Hazards identification

**Other hazards which do not result in classification** : Not available.

## Section 3. Composition/information on ingredients

**Substance/mixture** : Mixture

Ingredient name	%	CAS number
Polyamide resin	50-60	68410-23-1

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

## Section 4. First-aid measures

### Description of necessary first aid measures

- Inhalation** : Get medical attention immediately. Call a poison center or physician. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.
- Ingestion** : Get medical attention immediately. Call a poison center or physician. Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Chemical burns must be treated promptly by a physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.
- Skin contact** : Get medical attention immediately. Call a poison center or physician. Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.
- Eye contact** : Get medical attention immediately. Call a poison center or physician. Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Chemical burns must be treated promptly by a physician.

### Most important symptoms/effects, acute and delayed

#### Potential acute health effects

## Section 4. First-aid measures

- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects maybe delayed following exposure.
- Ingestion** : May cause burns to mouth, throat and stomach.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Eye contact** : Causes serious eye damage.

### Over-exposure signs/symptoms

- Inhalation** : No specific data.
- Ingestion** : Adverse symptoms may include the following:  
stomach pains
- Skin** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Eyes** : Adverse symptoms may include the following:  
pain  
watering  
redness

### Indication of immediate medical attention and special treatment needed, if necessary

- Specific treatments** : Not available.
- Notes to physician** : Symptomatic and supportive therapy as needed. Following severe exposure medical follow-up should be monitored for at least 48 hours.
- Protection of first-aiders** : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

## Section 5. Fire-fighting measures

### Extinguishing media

- Suitable** : Use an extinguishing agent suitable for the surrounding fire.
- Not suitable** : None known.
- Specific hazards arising from the chemical** : In a fire or if heated, a pressure increase will occur and the container mayburst.
- Hazardous thermal decomposition products** : Decomposition products may include the following materials:  
carbon dioxide  
carbon monoxide  
nitrogen oxides  
metal oxide/oxides
- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.
- Remark** : Not available.

## Section 6. Accidental release measures

- Personal precautions, protective equipment and emergency procedures** : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Do not breathe vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.
- Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).
- Methods and materials for containment and cleaning up** : Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.
- Stop leak if without risk. Move containers from spill area. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see section 1 for emergency contact information and section 13 for waste disposal.

## Section 7. Handling and storage

- Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.
- Conditions for safe storage, including any incompatibilities** : Store between the following temperatures: 2 to 40°C (35.6 to 104°F). Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.
- Storage hazard class** : Storage class 12, Liquids, not dangerous  
**DQ-TOOL®**  
**Advanced Materials**

## Section 8. Exposure controls/personal protection

### Control parameters

Ingredient name	Exposure limits
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## Section 8. Exposure controls/personal protection

None.

- Recommended monitoring procedures** : If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment.
- Appropriate engineering controls** : If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.
- Environmental exposure controls** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

### Individual protection measures

- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.
- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary.
- Material of gloves for long term application (BTT>480min):** : butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL), nitrile rubber, neoprene, Polyvinyl Chloride (PVC)
- Material of gloves for short term/splash application (10min<BTT<480min):** : butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL), nitrile rubber, neoprene, Polyvinyl Chloride (PVC)
- (BTT = Break Through Time)**  
Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US). Suitability and durability of a glove is dependent on usage, e.g. frequency and duration of contact, chemical resistance of glove material and dexterity. Always seek advice from glove suppliers. Additional information can be found for instance at [www.gisbau.de](http://www.gisbau.de).
- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

## Section 9. Physical and chemical properties

### Appearance

<b>Physical state</b>	: Paste.
<b>Colour</b>	: White.
<b>Odour</b>	: Slight
<b>Odour threshold</b>	: Not available.
<b>pH</b>	: Not available.
<b>Melting point</b>	: Not available.
<b>Boiling point</b>	: >200°C (>392°F)
<b>Flash point</b>	: Closed cup: >200°C (>392°F) [Data based on tests on similar product]
<b>Evaporation rate (butyl acetate = 1)</b>	: Not available.
<b>Flammability (solid, gas)</b>	: Not available.
<b>Lower and upper explosive (flammable) limits</b>	: Not available.
<b>Vapour pressure</b>	: Not available.
<b>Vapour density</b>	: Not available.
<b>Relative density</b>	: Not available.
<b>Solubility</b>	: Not available.
<b>Water solubility</b>	: Insoluble
<b>Partition coefficient: n-octanol/water</b>	: Not available.
<b>Auto-ignition temperature</b>	: Not available.
<b>Viscosity</b>	: Not available.
<b>Explosive properties</b>	: Not available.
<b>Oxidising properties</b>	: Not available.

### **Other information**

<b>Density</b>	: 0.5 g/cm <sup>3</sup> [25°C (77°F)] No additional information.
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## Section 10. Stability and reactivity

<b>Chemical stability</b>	: The product is stable.
<b>Possibility of hazardous reactions</b>	: Under normal conditions of storage and use, hazardous reactions will not occur.
<b>Conditions to avoid</b>	: No specific data.
<b>Incompatible materials</b>	: strong acids, strong bases, strong oxidising agents
<b>Hazardous decomposition products</b>	: Under normal conditions of storage and use, hazardous decomposition products should not be produced.  Decomposition products may include the following materials: Burning produces obnoxious and toxic fumes., Carbon oxides

## Section 11. Toxicological information

### Information on the likely routes of exposure

- Inhalation** : May give off gas, vapor or dust that is very irritating or corrosive to the respiratory system. Exposure to decomposition products may cause a health hazard. Serious effects may be delayed following exposure.
- Ingestion** : May cause burns to mouth, throat and stomach.
- Skin contact** : Causes skin irritation. May cause an allergic skin reaction.
- Eye contact** : Causes serious eye damage.

### Symptoms related to the physical, chemical and toxicological characteristics

- Inhalation** : No specific data.
- Ingestion** : Adverse symptoms may include the following:  
stomach pains
- Skin contact** : Adverse symptoms may include the following:  
pain or irritation  
redness  
blistering may occur
- Eye contact** : Adverse symptoms may include the following:  
pain  
watering  
redness

### Delayed and immediate effects and also chronic effects from short and long term exposure

#### Acute toxicity

Product/ingredient name	Endpoint	Species	Result	Exposure
polyaminoamide adduct	LD50 Dermal	Rat	6.5 g/kg	-
	LD50 Oral	Rat	>16 g/kg	-
tetraethylenepentamine	LD50 Dermal	Rabbit - Male, Female	1260 mg/kg	-
	LD50 Oral	Rat - Male	3250 mg/kg	-

#### Irritation/Corrosion

Product/ingredient name	Test	Species	Result
tetraethylenepentamine	OECD 404 Acute Dermal Irritation/Corrosion	Rabbit	Corrosive
	Unknown guidelines	Rabbit	Corrosive

#### Conclusion/Summary

- Skin** : tetraethylenepentamine: Corrosive to the skin.
- Eyes** : tetraethylenepentamine: Corrosive to eyes.

#### Sensitisation

Product/ingredient name	Test	Route of exposure	Species	Result
tetraethylenepentamine	OECD 406 Skin Sensitization	skin	Guinea pig	Sensitising

#### Conclusion/Summary

### Potential chronic health effects

- General** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Inhalation** : No known significant effects or critical hazards.
- Ingestion** : No known significant effects or critical hazards.
- Skin contact** : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.
- Eye contact** : No known significant effects or critical hazards.
- Carcinogenicity** : No known significant effects or critical hazards.



## Section 11. Toxicological information

**Mutagenicity** : No known significant effects or critical hazards.

**Teratogenicity** : No known significant effects or critical hazards.

**Developmental effects** : No known significant effects or critical hazards.

**Fertility effects** : No known significant effects or critical hazards.

### Chronic toxicity

Product/ingredient name	Test	Result type	Result	Target organs
tetraethylenepentamine	No official guidelines	NOAEL	Sub-chronic NOAEL Oral	lungs
	OECD 410 Repeated Dose Dermal Toxicity: 21/28-day Study	NOAEL	Sub-acute NOAEL Dermal	skin

### Carcinogenicity

Product/ingredient name	Test	Species	Exposure	Result	Route of exposure	Target organs
tetraethylenepentamine	OECD 451 Carcinogenicity Studies	Mouse	627 days; 3 days per week	Negative	Dermal	-

**Conclusion/Summary IARC Classification** : tetraethylenepentamine: In accordance with column 2 of Annex VII - X of Regulation (EC) No 1907/2006, the test for this property of the substance does not need to be conducted.

Product/ingredient name	Classification
polyaminoamide adduct	-
tetraethylenepentamine	-

### Mutagenicity

Product/ingredient name	Test	Result
tetraethylenepentamine	OECD 471 Bacterial Reverse Mutation Test	Positive
	OECD 479 Genetic Toxicology: In vitro Sister Chromatid Exchange Assay in Mammalian Cells	Positive
	OECD 482 Genetic Toxicology: DNA Damage and Repair, Unscheduled DNA Synthesis in Mammalian Cells in vitro	Negative
	OECD 474 Mammalian Erythrocyte Micronucleus Test	Negative

**Conclusion/Summary** : tetraethylenepentamine: The weight of the scientific evidence indicates that this material is non-genotoxic.

### Teratogenicity

Product/ingredient name	Test	Species	Result / Result type
tetraethylenepentamine	OECD 414 Prenatal Developmental Toxicity Study	Rat - Female	750 mg/kg NOAEL
	OECD 414 Prenatal Developmental Toxicity Study	Rabbit - Female	125 mg/kg NOAEL



## Section 12. Ecological information

**Environmental effects** : No known significant effects or critical hazards.

### Aquatic and terrestrial toxicity

Product/ingredient name	Test	Endpoint	Exposure	Species	Result
tetraethylenepentamine	No official guidelines	Acute EC50	2 hours Static	Bacteria	97.3 mg/L
	EU EC C.2 Acute Toxicity for Daphnia	Acute EC50	48 hours Static	Daphnia	24.1 mg/L
	OECD 201 Alga, Growth Inhibition Test	Acute ErC50 (growth rate)	72 hours Static	Algae	6.8 mg/L
	EU EC C.1 Acute Toxicity for Fish	Acute LC50	96 hours Semi-static	Fish	420 mg/L
	No official guidelines	Chronic EC10	2 hours Static	Bacteria	46 mg/L
	OECD 201 Alga, Growth Inhibition Test	Chronic NOEC	72 hours Static	Algae	0.5 mg/L

### Biodegradability

Product/ingredient name	Test	Period	Result
tetraethylenepentamine	OECD 302A Inherent Biodegradability: Modified SCAS Test	84 days	17 %

**Conclusion/Summary** : tetraethylenepentamine: Not biodegradable

### Bioaccumulative potential

Product/ingredient name	LogP <sub>ow</sub>	BCF	Potential
tetraethylenepentamine	-3.16	-	low

**Mobility** : Not available.

**Other adverse effects** : No known significant effects or critical hazards.

## Section 13. Disposal considerations

**Disposal methods** : The generation of waste should be avoided or minimised wherever possible. Significant quantities of waste product residues should not be disposed of via the foul sewer but processed in a suitable effluent treatment plant. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

## Section 14. Transport information

### International transport regulations

	14.1 UN number	14.2 UN proper shipping name
<b>ADR/RID</b>	Not regulated.	-
<b>IMDG</b>	Not regulated.	-
<b>IATA</b>	Not regulated.	-

## Section 14. Transport information

	14.3 Transport hazard class(es)	14.4 Packing group	14.5 Environmental hazards	14.6 Special precautions for user	Additional information
<b>ADR/RID</b>	-	-	No.	Not available.	-
<b>IMDG</b>	-	-	No.	Not available.	-
<b>IATA</b>	-	-	No.	Not available.	-

**14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code** : Not applicable.

## Section 15. Regulatory information

**Hazard symbol or symbols** :



**Signal word** : Danger

**Hazard statements** : Causes skin irritation.  
Causes serious eye damage.  
May cause an allergic skin reaction.

**Precautionary statements**

**Prevention** : Wear protective gloves: >8 hours (breakthrough time): butyl rubber, Ethyl Vinyl Alcohol Laminate (EVAL), nitrile rubber, neoprene, Polyvinyl Chloride (PVC). Wear eye or face protection. Avoid breathing vapour.

**Response** : IF IN EYES: Rinse cautiously with water for several minutes. Immediately call a POISON CENTER or physician. IF ON SKIN: Rinse skin with water. Take off contaminated clothing. Wash contaminated clothing before reuse.

**Storage** : Keep container tightly closed.

**Disposal** : Dispose of contents and container in accordance with all local, regional, national and international regulations.

**Additional information: EU regulations**

Classification and labeling have been determined according to EU Directives 67/548/EEC and 1999/45/EC (including amendments) and take into account the intended product use.

## Section 15. Regulatory information

Hazard symbol or symbols :



Irritant

Risk phrases

: R41- Risk of serious damage to eyes.  
R43- May cause sensitisation by skin contact.

Safety phrases

: S24- Avoid contact with skin.  
S26- In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.  
S37/39- Wear suitable gloves and eye/face protection.

## Section 16. Other information

### History

Date of printing : 24 September 2012  
Date of issue/Date of revision : 24 September 2012  
Date of previous issue : No previous validation  
Version : 1  
MSDS no. : 00074242

### Further information

### Notice to reader

*While the information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.*

**IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.**

**THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.**

**Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.**