

Safety Data Sheet

Doc ID: SDS-0096	Effective Date: 8/30/2019	Revision: A
Trade name	DAB Auto	

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

1.1 Product identifier

Trade name	DAB Auto
Cat ##	K081
Components	3,3'-Diaminobenzidine Tetrahydrochloride Hydrate, Imidazole, Tween-20
EC	231-018-9, 206-019-2, 500-018-3
CAS	868272-85-9, 288-32-4, 9005-64-45

1.2 Relevant identified uses of the substance or mixture and uses advised against

Liquid reagents represented by two components: Buffer (K 081B) and Chromogen (K 081C).

1.3 Details of the supplier of the safety data sheet

Diagnostic BioSystems, Inc.
6616 Owens Drive
Pleasanton, CA 94588
(925) 484-3350
Customersupport@dbiosys.com

1.4 Emergency telephone number

N/A

SECTION 2: Hazards Identification


2.1 Classification of the substance or mixture

COMPONENT 1 (K081C)			
	Hazard Class	Category	Hazard Statements (for pure substances)
3,3'-Diaminobenzidine Tetrahydrochloride Hydrate	Carcinogenicity	1B	H350 – May cause cancer
	Germ Cell Mutagenicity	2	H341 – Suspected of causing genetic defects
			R45 – May cause cancer R68 – Possible risk of irreversible effects
COMPONENT 2 (K081B)			
	Hazard Class	Category	Hazard Statements (for pure substances)
Imidazole	N/A	N/A	R22 – Harmful if swallowed R34 – Causes burns R61 – May cause harm to the unborn child
Tween-20	N/A	N/A	R36 – Irritating to eyes R38 – Irritating to skin

2.2 Label elements

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Signal Word	Danger
Pictogram	
H-Statements	N/A
P-Statements	N/A
EUH-Statements	N/A

2.3 Other hazards

N/A

SECTION 3: Composition/information on ingredients

COMPONENT 1 (K081C)			
Name	Identifiers	Classification according to CLP	Classification (for pure substances)
3,3'-Diaminobenzidine Tetrahydrochloride Hydrate	EC: 231-018-9 CAS: 868272-85-9	Concentration: 1-<5%	H341, H350 R45, R68
COMPONENT 2 (K081B)			
Name	Identifiers	Classification according to CLP	Classification (for pure substances)
Imidazole	EC: 206-019-2 CAS: 288-32-4	Concentration: 0.1-<0.5%	R22, R34, R61
Tween-20	EC: 500-018-3 CAS: 9005-64-45	Concentration: <0.15 %	R36, R38

SECTION 4: First aid measures

4.1 Description of first aid measures

If inhaled	Get medical attention immediately. 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 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.
If on skin	Remove contaminated clothing and wash skin thoroughly. Get medical attention.

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	Wash clothing and clean shoes thoroughly before reuse.
If in eyes	Thoroughly flush the eyes with large amounts of clean low-pressure water for at least 15 minutes, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. If irritation persists, seek medical attention.
If swallowed	Get medical attention immediately. Wash out mouth with water. 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. 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. 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.
Self-protection of the first aider	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.

4.2 Most important symptoms and effects, both acute and delayed

N/A

4.3 Indication of any immediate medical attention and special treatment needed

N/A

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media	Extinguish using suitable agents
Unsuitable extinguishing media	N/A

5.2 Special hazards arising from the substance or mixture

Hazardous combustion products	N/A
Other information	N/A

5.3 Advice for firefighters

Wear protective clothing containing self-contained breathing apparatus.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

Protective equipment	Ensure adequate ventilation Eye Protection: Wear goggles or safety glasses
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	Hand protection: Wear latex or vinyl gloves Other protective equipment: Use lab coat or apron to prevent contact with eyes, skin and clothing
Emergency procedures	N/A
For emergency responders	If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials.

6.2 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).

6.3 Methods and material for containment and cleaning up

For containment	N/A
For cleaning up	Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. If water-insoluble, absorb with and inert dry absorbent material and dispose of as hazardous waste. Keep in suitable, closed containers for disposal. Comply with applicable waste disposal regulations.
Other information	N/A

6.4 Reference to other sections

N/A

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Measures to prevent fire	N/A
Measures to prevent aerosol and dust generation	N/A
Measures to protect the environment	N/A
Advice on general occupational hygiene	Wear personal protective equipment. Ensure adequate ventilation. Do not eat, drink and smoke in areas where this product is handled, stored and processed. Wash hands and face after handling the product. Remove contaminated clothing and protective equipment before entering eating areas.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions	Store at 2°C to 8°C
Packaging materials	N/A
Requirements for storage rooms and	Store in accordance with local regulations. Store in original

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vessels	container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials, 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 unlabeled containers. Use appropriate containment to avoid environmental contamination.
Storage class	N/A
Other information	N/A

7.3 Specific end use(s)

Recommendations	N/A
Industrial sector specific solutions	N/A

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

N/A

8.2 Exposure controls

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.
Skin and body protection	Wear appropriate protective gloves and clothing to prevent skin exposure. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Wash and dry hands.
Eye/face 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. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with side-shields.
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. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

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SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance	Liquid
Odor	N/A
Order Threshold	N/A
pH	N/A
Melting Point/ Freezing Point	N/A
Initial Boiling Point/ Freezing Point	N/A
Flash Point	N/A
Evaporation Rate	N/A
Flammability	N/A
Upper/Lower Flammability or Explosive Limits	N/A
Vapor Pressure	N/A
Vapor Density	N/A
Relative Density	~1g/mL
Solubility	N/A
Partition Coefficient: n-octanol/water	N/A
Auto-Ignition Temperature	N/A
Decomposition temperature	N/A
Viscosity	N/A
Explosive Properties	N/A
Oxidizing Properties	N/A

9.2 Other Information

N/A

Section 10: Stability and Reactivity

10.1 Reactivity

N/A

10.2 Chemical Stability

Stable under recommended storage conditions

10.3 Possibility of Hazardous Reactions

Under normal conditions of storage and use, hazardous reactions will not occur.

10.4 Conditions to Avoid

Light sensitive. Keep away from heat. Protect from moisture.

10.5 Incompatible Materials

Oxidizing agents

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10.6 Hazardous Decomposition Products

Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological Information

COMPONENT 1 (K081C)	
3,3'-Diaminobenzidine Tetrahydrochloride Hydrate	
Common routes of entry	Oral, Dermal, Inhalation
Potential Effects of Acute Exposure	Exposure to decomposition products through inhalation may cause a health hazard. Serious effects may be delayed following exposure. No known significant effects or critical hazards for ingestion, skin contact and eye contact.
Potential Effects of Chronic Exposure	May cause cancer. Risk of cancer depends on duration and level of exposure. May cause heritable genetic effects.
Symptoms of Overexposure	N/A
COMPONENT 2 (K081B)	
Imidazole (in pure form): ORAL (LD50): Acute: 220 mg/kg [Rat].	
Common routes of entry	Ingestion, Eye contact, Inhalation
Potential Effects of Acute Exposure	Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.
Potential Effects of Chronic Exposure	Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation
Symptoms of Overexposure	N/A
Tween-20 (in pure form): mouse LD50 oral > 33gm/kg (33000mg/kg)	
Common route of entry	Ingestion
Potential Effects of Acute Exposure	Mild skin irritation
Potential Effects of Chronic Exposure	N/A
Symptoms of Overexposure	N/A

SECTION 12: Ecological Information

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12.1 Toxicity

N/A

12.2 Persistence and Degradability

N/A

12.3 Bioaccumulative potential

N/A

12.4 Mobility in Soil

N/A

12.5 Results of PBT and vPvB Assessment

N/A

12.6 Other Adverse Effects

N/A

SECTION 13: Disposal Considerations

13.1 Waste Treatment Methods

The generation of waste should be avoided or minimized wherever possible. 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. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction.

SECTION 14: Transport Information

14.1 Un Number

N/A

14.2 Un Proper Shipping Name

N/A

14.3 Transport Hazard Class (es)

N/A

14.4 Packing Group

N/A

14.5 Environmental Hazards

N/A

14.6 Special Precautions for User

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Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

14.7 Transport in Bulk according to Annex II of MARPOL73/78 and the IBC Code

N/A

SECTION 15: Regulatory Information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

Product/ingredient name	Carcinogenic effects	Mutagenic effects	Developmental effects	Fertility effects
3,3'-Diaminobenzidine Tetrahydrochloride Hydrate	Carc. 1B, H350	Muta. 2, H341	N/A	N/A

15.2 Chemical Safety Assessment

N/A

SECTION 16: Other Information

This information is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information of their particular purposes.