



Safety Data Sheet  
High Contrast DAB (EU)

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

**1.1 Product identifier**

Product name	High Contrast DAB (EU)
Product number	K055
Brand	High Contrast DAB

**Other means of identification**

COMPONENT 1. K055C (Chromogen)  
COMPONENT 2. K055B (Buffer)

**1.2 Relevant identified uses of the substance or mixture and uses advised against**  
In Vitro Diagnostic Use

**1.3 Details of the supplier of the safety data sheet**

Name	Diagnostic Biosystems
Address	6616 Owens Drive Pleasanton CA 94588 USA
Telephone	(888) 896-3350
email	customersupport@dbiosys.com

**1.4 Emergency telephone number**

(925) 484-3350 (9AM-6PM, Monday - Friday, Pacific Standard Time)

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**SECTION 2: Hazards identification**

**General hazard statement**

No ingredients of this mixture are considered hazardous

**2.1 Classification of the substance or mixture**

**Classification according to Regulation (EC) No 1272/2008 (CLP)**

- Carcinogenicity (chapter 3.6), Cat. 1B, H350
- Germ cell mutagenicity (chapter 3.5), Cat. 2, H341
- Acute toxicity, inhalation (chapter 3.1), Cat. 5, H333

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- Serious eye damage/eye irritation (chapter 3.3), Cat. 2
- Toxic to reproduction (chapter 3.7), Cat. 1A, H360

For the full text corresponding to the "H"-codes displayed in this section, refer to Section 16.

### 2.2 Label elements

#### Labelling according to Regulation (EC) No 1272/2008 [CLP]

##### Hazard pictograms



1. Health hazard; 2. Exclamation mark

##### Signal word

**Danger**

##### Hazard statements

H319	Causes serious eye irritation
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child

##### Precautionary statements

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P264	Wash hands thoroughly after handling.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P337+P313	If eye irritation persists: Get medical advice/attention.
P405	Store locked up.
P501	Dispose of contents/container to a licensed disposal company.

### 2.3 Other hazards

No other hazards identified

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## SECTION 3: Composition/information on ingredients

### 3.2 Mixtures

#### Hazardous components

##### Component 1.

##### 1. 3,3'-Diaminobenzidine tetrahydrochloride hydrate

Concentration	1 - 5 % (weight)
CAS no.	868272-85-9

- Eye damage/irritation (chapter 3.3), Cat. 2A
- Acute toxicity, oral (chapter 3.1), Cat. 4
- Carcinogenicity (chapter 3.6), Cat. 1B

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- Germ cell mutagenicity (chapter 3.5), Cat. 2

H341 Suspected of causing genetic defects  
H350 May cause cancer

### 2. N,N-DIMETHYLFORMAMIDE

Concentration 1 - < 5 % (volume)

Other names / synonyms Formamide, N,N-dimethyl-;  
EC no. 200-679-5  
CAS no. 68-12-2  
Index no. 616-001-00-X

- Reproductive toxicity (chapter 3.7), Cat. 1B  
- Acute toxicity, inhalation (chapter 3.1), Cat. 4  
- Acute toxicity, dermal (chapter 3.1), Cat. 4  
- Eye damage/irritation (chapter 3.3), Cat. 2A

H312 Harmful in contact with skin  
H319 Causes serious eye irritation  
H332 Harmful if inhaled  
H360D May damage the unborn child

### Component 2.

#### 1. Imidazole

Concentration 0.1 - < 0.5 % (weight)

Other names / synonyms 1H-Imidazole;  
EC no. 206-019-2  
CAS no. 288-32-4  
Index no. 613-319-00-0

- Reproductive toxicity (chapter 3.7), Cat. 1B  
- Acute toxicity, oral (chapter 3.1), Cat. 4  
- Skin corrosion/irritation (chapter 3.2), Cat. 1C

H302 Harmful if swallowed  
H314 Causes severe skin burns and eye damage  
H360D May damage the unborn child

#### 2. Polysorbate 21

Concentration <= 0.15 % (volume)

Other names / synonyms Polyoxyethylene sorbitan monolaurate; Polysorbate 20; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs; Sorbitan, monododecanoate, poly(oxy-1,2-ethanediyl) derivs.; Tween 20

EC no. 500-018-3  
CAS no. 9005-64-5

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### SECTION 4: First aid measures

#### 4.1 Description of first aid measures

General notes	Consult a physician. Show this safety data sheet to the doctor in attendance.
Following inhalation	If breathed in, move person into fresh air. If not breathing, give artificial respiration.  Do NOT induce vomiting. Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.
Following skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
Following eye contact	Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.
Following ingestion	Call a poison center or doctor if you feel unwell. If vomiting occurs naturally, have victim lean forward to reduce the risk of aspiration. Do NOT induce vomiting unless directed to do so by medical personnel. Never give anything by mouth to an unconscious person.  Acute and delayed symptoms and effects: May cause gastrointestinal irritation. Signs/symptoms may include abdominal pain, stomach upset, nausea, vomiting and diarrhea.
Self-protection of the first aider	Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

#### 4.2 Most important symptoms and effects, both acute and delayed

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

#### 4.3 Indication of any immediate medical attention and special treatment needed

No data available

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### SECTION 5: Firefighting measures

#### 5.1 Extinguishing media

Use extinguishing media appropriate for surrounding fire.

#### 5.2 Special hazards arising from the substance or mixture

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3,3'-Diaminobenzidine: Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

#### 5.3 Advice for firefighters

Wear self-contained breathing apparatus for firefighting if necessary.

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### SECTION 6: Accidental release measures

#### 6.1 Personal precautions, protective equipment and emergency procedures

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Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

Ensure adequate ventilation. Use personal protective equipment. For personal protection see section 8.

Use personal protective equipment. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. Remove all sources of ignition. Evacuate personnel to safe areas. Beware of vapours accumulating to form explosive concentrations. Vapours can accumulate in low areas. For personal protection see section 8.

### 6.2 Environmental precautions

Should not be released into the environment. See Section 12 for additional ecological information.

### 6.3 Methods and material for containment and cleaning up

Contain spillage, and then collect with an electrically protected vacuum cleaner or by wet-brushing and place in container for disposal according to local regulations (see section 13).

### 6.4 Reference to other sections

For disposal see section 13.

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## SECTION 7: Handling and storage

### 7.1 Precautions for safe handling

Avoid contact with skin and eyes. Avoid formation of dust and aerosols. Further processing of solid materials may result in the formation of combustible dusts. The potential for combustible dust formation should be taken into consideration before additional processing occurs. Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.

### 7.2 Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

### 7.3 Specific end use(s)

Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

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## SECTION 8: Exposure controls/personal protection

### 8.1 Control parameters

**CAS: 68-12-2**

N,N-DIMETHYLFORMAMIDE

Cal/OSHA: 10 ppm PEL inhalation; NIOSH: 10 ppm REL inhalation; OSHA: 10 ppm PEL inhalation; 30 mg/m<sup>3</sup> PEL inhalation

### 8.2 Exposure controls

#### Appropriate engineering controls

Avoid contact with skin, eyes and clothing. Wash hands before breaks and immediately after handling the product.

#### Individual protection measures, such as personal protective equipment

#### Pictograms



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### Eye and face protection

Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).

### Skin protection

Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.

### Body protection

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place., The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

### Respiratory protection

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

### Thermal hazards

No data available

### Control banding approach

No data available.

### Environmental exposure controls

Prevent further leakage or spillage if safe to do so. Do not let product enter drains.

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## SECTION 9: Physical and chemical properties

### 9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Clear
Colour	No data available.
Odour	No data available.
Odour threshold	No data available.
pH	7.2
Melting point/freezing point	No data available.
Boiling point or initial boiling point and boiling range	No data available.
Flash point	No data available.
Evaporation rate	No data available.
Flammability	No data available.
Lower and upper explosion limit/flammability limit	No data available.
Vapor pressure	No data available.
Relative vapor density	No data available.
Density and/or relative density	No data available.
Solubility	No data available.
Partition coefficient n-octanol/water (log value)	No data available.
Auto-ignition temperature	No data available.
Decomposition temperature	No data available.
Kinematic viscosity	No data available.
Explosive properties	No data available.
Oxidizing properties	No data available.

### Particle characteristics

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No data available.

### 9.2 Other information

#### 9.2.1 Information with regard to physical hazard classes

No data available.

#### 9.2.2 Other safety characteristics

No data available.

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## SECTION 10: Stability and reactivity

### 10.1 Reactivity

None under normal use conditions.

### 10.2 Chemical stability

Stable under recommended storage conditions.

### 10.3 Possibility of hazardous reactions

None under normal use conditions.

### 10.4 Conditions to avoid

Exposure to moisture.

Avoid storing in direct sunlight and avoid extremes of temperature.

Heat, flames and sparks.

### 10.5 Incompatible materials

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3,3'-Diaminobenzidine: Strong oxidizing agents

### 10.6 Hazardous decomposition products

Other decomposition products - No data available In the event of fire: see section 5

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## SECTION 11: Toxicological information

### 11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

#### Acute toxicity

Likely Routes of Exposure: Eye contact. Skin contact. Inhalation. Ingestion.

Acute and delayed symptoms and effects from inhalation, skin and eye contact and ingestion are listed in Section 4.

The ATE (gas inhalation) of the mixture is: 90000 ppmV

3,3'-Diaminobenzidine

LD50 Oral - Mouse - 1,834 mg/kg

Polyoxyethylene sorbitan monolaurate

LD50 Oral - Rat - 40,554.0 mg/kg

#### Skin corrosion/irritation

May cause skin irritation.

#### Serious eye damage/irritation

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Causes eye irritation.

### Respiratory or skin sensitization

Based on available data, classification data are not met

### Germ cell mutagenicity

May cause genetic defects.

### Carcinogenicity

May cause cancer.

3,3'-Diaminobenzidine

Oral - Rat

Result: Tumorigenic: Equivocal tumorigenic agent by RTECS criteria. Skin and Appendages: Other: Tumors.

Presumed to have carcinogenic potential for humans

### Reproductive toxicity

May damage fertility or the unborn child

### STOT-single exposure

No data available

### STOT-repeated exposure

May cause damage to organs through prolonged or repeated exposure

### Aspiration hazard

May be harmful if swallowed and enters airways

## 11.2 Information on other hazards

### Endocrine disrupting properties

No data available.

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## SECTION 12: Ecological information

### 12.1 Toxicity

Polyoxyethylene sorbitan monolaurate

LC50 - Other fish - 350 mg/l - 24 h

### 12.2 Persistence and degradability

No data available.

### 12.3 Bioaccumulative potential

No data available.

### 12.4 Mobility in soil

No data available.

### 12.5 Results of PBT and vPvB assessment

No data available.

### 12.6 Endocrine disrupting properties

No data available.

### 12.7 Other adverse effects

No data available.



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### SECTION 13: Disposal considerations

#### 13.1 Waste treatment methods

**Product disposal**

Offer surplus and non-recyclable solutions to a licensed disposal company.

**Packaging disposal**

Dispose of as unused product.

**Waste treatment**

No data available

**Sewage disposal**

Do not let product enter drains

**Other disposal recommendations**

Dispose of contents/ container in accordance with the local/regional/national/international regulations.

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### SECTION 14: Transport information

14.1 UN Number	None
14.2 UN Proper Shipping Name	None
14.3 Transport hazard class(es)	None
14.4 Packing group	None
14.5 Environmental hazards	None
14.6 Special precautions for user	None
14.7 Maritime transport in bulk according to IMO instruments	None

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### SECTION 15: Regulatory information

#### 15.2 Chemical Safety Assessment

The supplier of this product has not conducted any Chemical Safety Assessment

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### SECTION 16: Other information

**Full text of hazard statements referenced in Section 2**

H333	May be harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child

SDS-0011, Rev. C

**Further information/disclaimer**

DISCLAIMER: The information above 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 investigation to determine the suitability of information for their particular purposes. In no event shall Diagnostic BioSystems be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, whatsoever arising, even if Diagnostic BioSystems has been advised of the possibility of such damages.