Safety Data Sheet
SITVue /DAB Detection System (OSHA)

SECTION 1: Identification

1.1 GHS Product identifier

Product name	SITVue /DAB Detection System (OSHA)
Product number	SIT-25D, SIT-100D, SIT-1000D
Brand	SITVue /DAB Detection System

1.2 Other means of identification

Component 1: K029
Component 2: Stable DAB/Plus Chromogen
Component 3: Stable DAB/Plus Substrate Buffer

1.3 Recommended use of the chemical and restrictions on use

In Vitro Diagnostic Use

1.4 Supplier's details

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

1.5 Emergency phone number

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

SECTION 2: Hazard identification

General hazard statement
For Professional Users Only

2.1 Classification of the substance or mixture

GHS classification in accordance with: OSHA (29 CFR 1910.1200)

- Acute toxicity, oral (C.4.1), Cat. 4
- Carcinogenicity (C.4.9), Cat. 1B
- Germ cell mutagenicity (C.4.8), Cat. 2

- Specific target organ toxicity (repeated exposure) (C.4.12), Cat. 2
- Toxic to reproduction (C.4.10), Cat. 1B

2.2 GHS label elements, including precautionary statements

Pictogram

1. Exclamation mark; 2. Health hazard

Signal word **Danger**

Hazard statement(s)

H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H332	Harmful if inhaled
H341	Suspected of causing genetic defects
H350	May cause cancer
H360	May damage fertility or the unborn child
H373	May cause damage to organs through prolonged or repeated exposure

Precautionary statement(s)

P201	Obtain special instructions before use.
P202	Do not handle until all safety precautions have been read and understood.
P260	Do not breathe dust/fume/gas/mist/vapors/spray.
P261	Avoid breathing dust/fume/gas/mist/vapors/spray.
P264	Wash hands thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P272	Contaminated work clothing must not be allowed out of the workplace.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P301+P312	IF SWALLOWED: Call a POISON CENTER /doctor if you feel unwell,
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P308+P313	IF exposed or concerned: Get medical advice/attention.
P312	Call a POISON CENTER/doctor if you feel unwell.
P314	Get medical advice/attention if you feel unwell.
P330	Rinse mouth.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.
P362+P364	Take off contaminated clothing and wash it before reuse.
P405	Store locked up.
P501	Dispose of contents/container to a licensed disposal company.

2.3 Other hazards which do not result in classification

No other hazards identified

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

1. Glycol

Concentration	<= 25 % (volume)

Other names / synonyms	1,2-DIHYDROXYETHANE; 1,2-ETHANDIOL; 1,2-Ethanediol; DOWTHERM SR 1; ETHANE-1,2-DIOL; Ethane-1,2-diol, Ethylene glycol; ethanediol; ETHYLENE ALCOHOL; ETHYLENE DIHYDRATE; Ethylene glycol; Ethylene glycol (ingested); ETHYLENEGLYCOL; GLYCOL ALCOHOL; LUTROL-9; M.E.G.; MACROGOL 400 BPC; MONOETHYLENE GLYCOL; NCI-C00920; NORKOOL; TESCOL; UCAR 17
EC no.	203-473-3
CAS no.	107-21-1
Index no.	603-027-00-1

- Acute toxicity, oral (C.4.1), Cat. 4
- Specific target organ toxicity (repeated exposure) (C.4.12), Cat. 2

H302	Harmful if swallowed
H373	May cause damage to organs [organs] through prolonged or repeated exposure [route]

2. 2-[[]4-(2,4,4-trimethylpentan-2-yl)phenoxy]ethanol

Concentration	<= 0.1 % (volume)
EC no.	618-344-0
CAS no.	9002-93-1

3. Tromethamine

Concentration	<= 1.5 % (weight)
Other names / synonyms	1,3-Propanediol, 2-amino-2-(hydroxymethyl)-; Tris; Trometamol;
CAS no.	77-86-1

4. Methylchloroisothiazolinone

Concentration	<= 0.1 % (volume)
Other names / synonyms	3(2H)-Isothiazolone, 5-chloro-2-methyl-; 5-Chloro-2-methyl-2H-isothiazol-3-one; 5-chloro-2-methyl-3(2H)-isothiazolone; Proclin 300
EC no.	247-500-7
CAS no.	26172-55-4

- Acute toxicity, dermal (C.4.2), Cat. 3
- Acute toxicity, oral (C.4.1), Cat. 3
- Skin corrosion/irritation (C.4.4), Cat. 1B
- Sensitization, skin (C.4.7), Cat. 1
- Eye damage/irritation (C.4.5), Cat. 1
- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

Component 2.
1. 3,3'-Diaminobenzidine tetrahydrochloride hydrate

Concentration	1 - 5 % (weight)
Other names / synonyms	[1,1'-Biphenyl]-3,3',4,4'-tetramine; biphenyl-3,3',4,4'-tetrayltetraamine; diaminobenzidine
EC no.	231-018-8
CAS no.	868272-85-9

- Serious eye damage/eye irritation (chapter 3.3), Cat. 2
- Acute toxicity, oral (C.4.1), Cat. 4
- Carcinogenicity (C.4.9), Cat. 1B
- Germ cell mutagenicity (C.4.8), Cat. 2

H341	Suspected of causing genetic defects
H350	May cause cancer

Component 3.
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

- Toxic to reproduction (C.4.10), Cat. 1B
- Acute toxicity, oral (C.4.1), Cat. 4
- Skin corrosion/irritation (C.4.4), Cat. 1C

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

SECTION 4: First-aid measures

4.1 Description of necessary first-aid measures

General advice	Consult a physician. Show this safety data sheet to the doctor in attendance.
If inhaled	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.
In case of skin contact	Rinse with plenty of water. Get medical attention if irritation develops and persists.
In case of eye contact	Rinse thoroughly with plenty of water for at least 15 minutes. Get medical attention if symptoms occur.

If swallowed

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.

Personal protective equipment for first-aid responders

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

4.2 Most important symptoms/effects, 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 immediate medical attention and special treatment needed, if necessary

No data available

SECTION 5: Fire-fighting measures

5.1 Suitable extinguishing media

Use extinguishing media appropriate for surrounding fire.

5.2 Specific hazards arising from the chemical

Ethylene glycol: No data available.

5-chloro-2-methyl-3(2H)-isothiazolone: carbon dioxide, carbon monoxide, hydrogen sulfide, nitrogen oxides, phosgene

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3,3'-Diaminobenzidine: Carbon oxides, Nitrogen oxides (NOx)

5.3 Special protective actions for fire-fighters

Wear self-contained breathing apparatus for firefighting if necessary.

Further information

No data available.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

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 materials 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).

Reference to other sections
For disposal see section 13.

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.

Specific end use(s)
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 107-21-1 (EC: 203-473-3)
Glycol
ACGIH (USA): 100 mg/m3 PEL-C inhalation; 100 mg/m3 PEL-C inhalation; 100 mg/m3 PEL-C inhalation;
Cal/OSHA (USA): 40 ppm, 100 mg/m3 PEL-C inhalation

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

8.3 Individual protection measures, such as personal protective equipment (PPE)

Pictograms

Eye/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.

SECTION 9: Physical and chemical properties and safety characteristics

Physical state	Liquid
Appearance	Clear
Color	Not Applicable
Odor	Not Applicable
Odor threshold	No data available.
pH	7.6
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
No data available.

Supplemental information regarding physical hazard classes
No data available.

Further safety characteristics (supplemental)
No data available.

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

Ethylene glycol: Strong acids, Strong oxidizing agents, Strong bases, Aldehydes, Aluminum

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5-chloro-2-methyl-3(2H)-isothiazolone: strong oxidizing agents

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

Ethylene glycol: Hazardous decomposition products formed under fire conditions. - Carbon oxides
In the event of fire: see section 5

SECTION 11: Toxicological information

Information on toxicological effects

Acute toxicity
The ATE (oral) of the mixture is: 1639.34 mg/kg bw

3,3'-Diaminobenzidine
LD50 Oral - Mouse - 1,834 mg/kg

Ethylene glycol
LD50 Oral - Rat - 4,700 mg/kg

Skin corrosion/irritation
Ethylene glycol
LD50 Skin - Rabbit - 10,626 mg/kg

Serious eye damage/irritation
No Data Available

Respiratory or skin sensitization
Based on available data, classification data are not met

Germ cell mutagenicity
Based on available data, classification data are not met

Carcinogenicity
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
Based on available data, classification data are not met

STOT-single exposure
Ethylene glycol
LD50 Skin - Rabbit - 10,626 mg/kg

STOT-repeated exposure
No data available.

Aspiration hazard
No data available.

Additional information
No data available.

SECTION 12: Ecological information

Toxicity
5-chloro-2-methyl-3(2H)-isothiazolone
EC50 - Pseudokirchneriella subcapitata (green algae) - 0.11 - 0.16 mg/l - 72 h

5-chloro-2-methyl-3(2H)-isothiazolone
LC50 - Oncorhynchus mykiss (rainbow trout) - 1.6 mg/l - 96 h

5-chloro-2-methyl-3(2H)-isothiazolone
EC50 - Daphnia magna (water flea) - 4.7 mg/l - 48 h

Ethylene glycol
LC50 - Oncorhynchus mykiss (rainbow trout) - 18,500 mg/l - 96 h

Ethylene glycol
LC50 - Leuciscus idus (golden orfe) - >10,000 mg/l - 48 h
Result: Bioconcentration factor (BCF): 0.60

Ethylene glycol
NOEC - Pimephales promelas (fathead minnow) - 32,000 mg/l - 7 d

Ethylene glycol
NOEC - Pimephales promelas (fathead minnow) - 39,140 mg/l - 96 h

Ethylene glycol
EC50 - Daphnia magna (water flea) - 74,000 mg/l - 24 h

Ethylene glycol
NOEC - Daphnia magna (water flea) - 24,000 mg/l - 48 h

Ethylene glycol
LC50 - Daphnia magna (water flea) - 41,000 mg/l - 48 h

Persistence and degradability
Ethylene glycol

Result: Ratio BOD/ThBOD 0.78 %

Bioaccumulative potential
Ethylene glycol
- other fish - 50 mg/l - 61 d

Mobility in soil
No data available.

Results of PBT and vPvB assessment
PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

Endocrine disrupting properties
No data available.

Other adverse effects
No data available.

SECTION 13: Disposal considerations

Disposal 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.

SECTION 14: Transport information

DOT (US)
Not dangerous goods

IMDG
Not dangerous goods

IATA
Not dangerous goods

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations specific for the product in question

California Prop. 65 Components
WARNING: This product contains a chemical known to the State of California to cause birth defects or other reproductive harm.
Ethylene glycol
CAS number: 107-21-1

Canadian Domestic Substances List (DSL)
Chemical name: 1,2-Ethanediol
CAS: 107-21-1

Chemical name: 1,3-Propanediol, 2-amino-2-(hydroxymethyl)-
CAS: 77-86-1

Chemical name: 3(2H)-Isothiazolone, 5-chloro-2-methyl-
CAS: 26172-55-4

Chemical name: 1H-Imidazole
CAS: 288-32-4

Canadian Non-Domestic Substances List (NDSL)
Chemical name: [1,1'-Biphenyl]-3,3',4,4'-tetramine
CAS: 91-95-2

Massachusetts Right To Know Components
Ethylene glycol
CAS number: 107-21-1

No components are subject to the Massachusetts Right to Know Act

New Jersey Right To Know Components
Ethylene glycol
CAS number: 107-21-1

Biphenyl-3,3',4,4'-tetrayltetraamine
CAS-No. 91-95-2

Pennsylvania Right To Know Components
Ethylene glycol
CAS number: 107-21-1

Biphenyl-3,3',4,4'-tetrayltetraamine
CAS-No. 91-95-2

SARA 302 Components
No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

No chemicals in this material are subject to the reporting requirements of SARA Title III, Section 302.

SARA 311/312 Hazards
Acute Health Hazard, Chronic Health Hazard

SARA 313 Components

The following components are subject to reporting levels established by SARA Title III, Section 313:
Ethylene glycol
CAS number: 107-21-1

This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

15.2 Chemical Safety Assessment

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

SECTION 16: Other information

SDS-0122 Rev. C

16.1 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.