

Safety Data Sheet
Elastic Stain Kit (Modified Verhoff's) (EU)



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

1.1 Product identifier

Product name Elastic Stain Kit (Modified Verhoff's) (OSHA)
Product number KT012
Brand Elastic Stain Kit (Modified Verhoff's)

Other means of identification

Kit Component	Volume	Storage
1. Hematoxylin Solution (5%)	250 mL	15-30°C
2. Ferric Chloride (10%, Aqueous)	125 mL	15-30°C
3. Lugol's Iodine Solution	125 mL	15-30°C
4. Ferric Chloride (2%) Differentiating Solution	125 mL	15-30°C
5. Sodium Thiosulfate Solution (5%)	125 mL	15-30°C
6. Van Gieson's Solution	125 mL	15-30°C

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)

SECTION 2: Hazards identification

General hazard statement
For Professional Users Only

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

2.1 Classification of the substance or mixture

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

- Acute toxicity, inhalation (chapter 3.1), Cat. 5, H333
- Acute toxicity, oral (chapter 3.1), Cat. 5, H303
- Skin corrosion/irritation (chapter 3.2), Cat. 3, H316

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. Exclamation mark

Signal word

Warning

Hazard statements

H317
H332

May cause an allergic skin reaction
Harmful if inhaled

Precautionary statements

P261
P271
P272
P280
P302+P352
P304+P340
P312
P333+P313
P362+P364
P501

Avoid breathing dust/fume/gas/mist/vapors/spray.
Use only outdoors or in a well-ventilated area.
Contaminated work clothing should not be allowed out of the workplace.
Wear protective gloves/protective clothing/eye protection/face protection.
IF ON SKIN: Wash with plenty of water.
IF INHALED: Remove person to fresh air and keep comfortable for breathing.
Call a POISON CENTER/doctor if you feel unwell.
If skin irritation or rash occurs: Get medical advice/attention.
Take off contaminated clothing and wash it before reuse.
Dispose of contents/container to a licensed disposal company.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Component 1.

1. Alcohol

Concentration <= 93 % (volume)

Other names / synonyms

ABSOLUTE ETHANOL; ALCOHOL DEHYDRATED; ALCOHOL, ANHYDROUS; Alcoholum / ethanolum; ALGRAIN; ANHYDROL; COLOGNE SPIRIT; COLOGNE SPIRITS (ALCOHOL); Ethanol; ETHANOL 200 PROOF; ETHANOL SOLUTION; ETHYL ALCOHOL; ETHYL ALCOHOL ANHYDROUS; ETHYL HYDRATE; ETHYL HYDROXIDE; FERMENTATION ALCOHOL; GRAIN ALCOHOL; JAYSOL; JAYSOL S; METHYLCARBINOL;

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

MOLASSES ALCOHOL; NCI-C03134; POTATO ALCOHOL; SD ALCOHOL
23-HYDROGEN; SPIRIT; SPIRITS OF WINE; TECSOL; UN 1170

EC no. 200-578-6
CAS no. 64-17-5
Index no. 603-002-00-5

- Flammable liquids (chapter 2.6), Cat. 2

H225 Highly flammable liquid and vapor

2. Isopropyl alcohol

Concentration <= 5 % (volume)

Other names / synonyms 2-HYDROXYPROPANE; 2-Propanol; 2-PROPYL ALCOHOL; ALCOJEL;
ALCOSOLVE; ALCOSOLVE 2; AVANTIN; AVANTINE; CHROMAR; COMBI-
SCHUTZ; DIMETHYLCARBINOL; HARTOSOL; IMSOL A; ISOHOL;
Isopropanol; LUTOSOL; N-PROPAN-2-OL; PETROHOL; PRO; PROPAN-2-
OL; Propan-2-ol, isopropanol; PROPOL; reaction mass of: bis(1S,2S,4S)-(1-
benzyl-4-tert-butoxycarboxamido-2-hydroxy-5-phenyl)pentylammonium
succinate; SEC-PROPYL ALCOHOL; SPECTRAR; STERISOL HAND
DISINFECTANT; TAKINEOCOL; UN 1219

EC no. 414-810-0
CAS no. 67-63-0
Index no. 607-403-00-6

- Flammable liquids (chapter 2.6), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2
- Specific target organ toxicity, single exposure (chapter 3.8), Cat. 3
- Specific target organ toxicity, repeated exposure (chapter 3.9), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 1
- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1
- Hazardous to the aquatic environment, long-term (chronic) (chapter 4.1), Cat. 1

H225 Highly flammable liquid and vapor
H318 Causes serious eye damage
H319 Causes serious eye irritation
H335 May cause respiratory irritation
H336 May cause drowsiness or dizziness
H373 May cause damage to organs through prolonged or repeated exposure
H400 Very toxic to aquatic life
H410 Very toxic to aquatic life with long lasting effects

3. HEMATOXYLIN

Concentration <= 5 % (weight)

Other names / synonyms Benz[b]indeno[1,2-d]pyran-3,4,6a,9,10(6H)-pentol, 7,11b-dihydro-, cis-(++)-;
CAS no. 517-28-2

Component 2.

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

1. Ferric chloride

Concentration	<= 10 % (weight)
Other names / synonyms	Iron (III), chloride, hexahydrate; Iron trichloride
CAS no.	10025-77-1

Component 3.

1. Potassium iodide

Concentration	<= 4 % (weight)
Other names / synonyms	Kalii iodidum; Potassium iodide (KI);
EC no.	231-659-4
CAS no.	7681-11-0

- Acute toxicity, oral (chapter 3.1), Cat. 4
- Skin corrosion/irritation (chapter 3.2), Cat. 2
- Eye damage/irritation (chapter 3.3), Cat. 2A

H302	Harmful if swallowed
H315	Causes skin irritation
H319	Causes serious eye irritation

2. Iodine

Concentration	<= 2 % (weight)
EC no.	231-442-4
CAS no.	7553-56-2
Index no.	053-001-00-3

- Acute toxicity, inhalation (chapter 3.1), Cat. 4
- Acute toxicity, dermal (chapter 3.1), Cat. 4
- Hazardous to the aquatic environment, short-term (acute) (chapter 4.1), Cat. 1

H312	Harmful in contact with skin
H332	Harmful if inhaled
H400	Very toxic to aquatic life

Component 4.

1. Ferric chloride

Concentration	<= 3 % (weight)
Other names / synonyms	Iron (III), chloride, hexahydrate; Iron trichloride
CAS no.	10025-77-1

Component 5.

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

1. Sodium thiosulfate

Concentration	<= 5 % (weight)
Other names / synonyms	Natrii thiosulfas; Sodium thiosulphate; Thiosulfuric acid (H ₂ S ₂ O ₃), disodium salt; Thiosulfuric acid (H ₂ S ₂ O ₃), disodium salt, pentahydrate; Thiosulfuric acid (H ₂ S ₂ O ₃), sodium salt (1:2)
CAS no.	7772-98-7

Component 6.

1. Picric acid

Concentration	<= 2 % (weight)
Other names / synonyms	Phenol, 2,4,6-trinitro-;
EC no.	201-865-9
CAS no.	88-89-1
Index no.	609-009-00-X

- Explosives (chapter 2.1), Division 1.1
- Acute toxicity, inhalation (chapter 3.1), Cat. 3
- Acute toxicity, dermal (chapter 3.1), Cat. 3
- Acute toxicity, oral (chapter 3.1), Cat. 3

H201	Explosive; mass explosion hazard
H301	Toxic if swallowed
H311	Toxic in contact with skin
H331	Toxic if inhaled

2. Hydrochloric acid

Concentration	<= 0.2 % (weight)
Other names / synonyms	Acidum hydrochloricum; hydrogen chloride; HYDROGEN CHLORIDE (gas)
EC no.	231-595-7
CAS no.	7647-01-0
Index no.	017-002-01-X

- Skin corrosion/irritation (chapter 3.2), Cat. 1
- Eye damage/irritation (chapter 3.3), Cat. 1
- Acute toxicity, inhalation (chapter 3.1), Cat. 3

H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H331	Toxic if inhaled
SCLs/M-factors/ATEs	Skin Corr. 1B; H314: C ≥ 25 % Skin Irrit. 2; H315: 10 % ≤ C < 25 % Eye Irrit. 2; H319: 10 % ≤ C < 25 % STOT SE 3; H335: C ≥ 10 %

3. Fuchsin Acid

Concentration	<= 0.1 % (weight)
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Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

Other names / synonyms	Benzenesulfonic acid, 2-amino-5-[(4-amino-3-sulfophenyl)(4-imino-3-sulfo-2,5-cyclohexadien-1-ylidene)methyl]-3-methyl-, disodium salt;
CAS no.	3244-88-0

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

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

Ethanol: Carbon oxides

5.3 Advice for firefighters

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

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 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.

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

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

CAS: 64-17-5

Alcohol

ACGIH (USA): (ST) 1000 ppm TLV® inhalation; Cal/OSHA: 1000 ppm PEL inhalation; NIOSH: 1000 ppm REL inhalation; OSHA: 1000 ppm PEL inhalation; 1900 mg/m³ PEL inhalation

CAS: 67-63-0

Isopropyl alcohol

ACGIH (USA): 200 ppm, (ST) 400 ppm TLV® inhalation; Cal/OSHA: 400 ppm, (ST) 500 ppm PEL inhalation; NIOSH: 400 ppm, (ST) 500 ppm REL inhalation; OSHA: 400 ppm PEL inhalation; 980 mg/m³ PEL inhalation

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

CAS: 7553-56-2

Iodine

Cal/OSHA: (C) 0.1 ppm PEL inhalation; NIOSH: (C) 0.1 ppm REL inhalation; OSHA: (C) 0.1 ppm PEL inhalation; (C) 1 mg/m³ PEL inhalation

CAS: 7647-01-0

Hydrochloric acid

ACGIH: 2 ppm (C) TLV® inhalation; NIOSH: 5 ppm, 7 mg/m³ REL-C inhalation; OSHA: 5 ppm, 7 mg/m³ PEL-C inhalation

CAS: 7681-11-0 (EC: 231-659-4)

Potassium iodide

ACGIH: 0.01 mg/m³ TWA inhalation

CAS: 88-89-1

Picric acid

Cal/OSHA: 0.1 mg/m³ PEL inhalation; NIOSH: 0.1 mg/m³, (ST) 0.3 mg/m³ REL inhalation; OSHA: 0.1 mg/m³ 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



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

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

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

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	Liquid
Appearance	Not applicable
Colour	Colorless
Odour	Odorless
Odour threshold	No data available.
pH	Not applicable
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.

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.

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.

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

Heat, flames and sparks.

10.5 Incompatible materials

Ethanol: Alkali metals, Oxidizing agents, Peroxides

Isopropanol: Oxidizing agents, Acid anhydrides, Aluminium, Halogenated compounds, Acids

Potassium iodide: Strong reducing agents, Nickel, Strong acids, and its alloys, Steel (all types and surface treatments), Aluminum, Alkali metals, Brass, Magnesium, Zinc, cadmium, Copper

10.6 Hazardous decomposition products

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

Isopropanol: Hazardous decomposition products formed under fire conditions. - Carbon oxides

Other decomposition products - No data available

In the event of fire: see section 5

SECTION 11: Toxicological information

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

Acute toxicity

Ethanol: ACGIH: A3 Confirmed animal carcinogen with unknown relevance to humans.

The ATE (gas inhalation) of the mixture is: 27876.11 ppmV

The ATE (oral) of the mixture is: 3571.43 mg/kg bw

ETHANOL

LD50 Oral - Rat - 10,470 mg/kg

ISOPROPANOL

LD50 Oral - Rat - 5,045 mg/kg

Remarks: Behavioral: Altered sleep time (including change in righting reflex). Behavioral: Somnolence (general depressed activity).

Potassium iodide

LD50 Oral - Mouse - 1,000 mg/kg

Skin corrosion/irritation

ETHANOL

LD50 Skin - Rabbit - 15,800 mg/kg

ETHANOL

OECD Test Guideline 404 Skin - Rabbit - 24 h

Result: No skin irritation

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

ISOPROPANOL
LD50 Skin - Rabbit - 12,800 mg/kg

Serious eye damage/irritation

ETHANOL
OECD Test Guideline 405 Eyes - Rabbit
Result: Moderate eye irritation

Respiratory or skin sensitization

ETHANOL
LD50 Inhalation - Rat - 30,000 mg/l - 4 h

ISOPROPANOL
LC50 Inhalation - Rat - 16000 ppm - 8 h

Germ cell mutagenicity

Based on available data, classification data are not met

Carcinogenicity

Ethanol: ACGIH: A3 Confirmed animal carcinogen with unknown relevance to humans.

Reproductive toxicity

Based on available data, classification data are not met

STOT-single exposure

No data available.

STOT-repeated exposure

No data available.

Aspiration hazard

ETHANOL
LD50 Inhalation - Rat - 30,000 mg/l - 4 h

ISOPROPANOL
LC50 Inhalation - Rat - 16000 ppm - 8 h

11.2 Information on other hazards

Endocrine disrupting properties

No data available.

Other information

No data available.

SECTION 12: Ecological information

12.1 Toxicity

ETHANOL
EC50 - Chlorella vulgaris (Fresh water algae) - 275 mg/l - 72 h

ETHANOL
LC50 - Pimephales promelas (fathead minnow) - 14,200 mg/l - 96 h

ETHANOL

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

LC50 - Ceriodaphnia dubia (water flea) - 5,012 mg/l - 48 h

ISOPROPANOL

LC50 - Pimephales promelas (fathead minnow) - 9,640.00 mg/l - 96 h

ISOPROPANOL

EC50 - Daphnia magna (water flea) - 5,102.00 mg/l - 24 h

ISOPROPANOL

EC50 - Daphnia magna (water flea) - 6,851 mg/l - 24 h

ISOPROPANOL

EC50 - Desmodesmus subspicatus (chodat) - > 2,000.00 mg/l - 72 h

ISOPROPANOL

EC50 - Algae - > 1,000.00 mg/l - 24 h

Potassium iodide

LC50 - Oncorhynchus mykiss (rainbow trout) - 2,190 mg/l - 96 h

Potassium iodide

EC50 - Daphnia magna (water flea) - 2.7 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

PBT/vPvB assessment not available as chemical safety assessment not required/not conducted

12.6 Endocrine disrupting properties

No data available.

12.7 Other adverse effects

No data available.

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

Safety Data Sheet

Elastic Stain Kit (Modified Verhoff's) (EU)

Other disposal recommendations

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

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

SECTION 15: Regulatory information

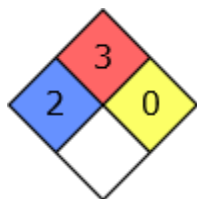
15.2 Chemical Safety Assessment

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

HMIS Rating

Elastic Stain Kit (Modified Verhoff's) (OSHA)	
HEALTH	2
FLAMMABILITY	3
PHYSICAL HAZARD	0
PERSONAL PROTECTION	C

NFPA Rating



SECTION 16: Other information

Full text of hazard statements referenced in Section 2

H303	May be harmful if swallowed
H316	Causes mild skin irritation
H333	May be harmful if inhaled

SDS-0099, Rev. B

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.

Safety Data Sheet
Elastic Stain Kit (Modified Verhoff's) (EU)