

SAFETY DATA SHEET

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

1.1 Product identifiers: R558a AP Spot Test

1.2 Recommended Use: Forensic, Research

1.3 Company Info: Serological Research Institute (SERI), 3053 Research Drive, Richmond, CA 94806 USA

Phone: 1-510-223-7374 Fax: 1-510-222-8887

1.4 Emergency Phone: 911, American Association of Poison Control Centers: 1-800-222-1222

SECTION 2: HAZARDS IDENTIFICATION

2.1 Classification of the substance or mixture

GHS Classification in accordance with 29 CFR 1910 (OSHA HCS)

Acute toxicity, Oral (Category 4), H302

Skin irritation (Category 2), H315

Eye irritation (Category 2A), H319

Skin sensitisation (Category 1), H317

Specific target organ toxicity - single exposure (Category 3), Respiratory system, H335

Carcinogenicity (Category 1B), H350

Acute aquatic toxicity (Category 3), H402

For the full text of the H-Statements mentioned in this Section, see Section 16.

2.2 GHS Label elements, including precautionary statements



Pictogram

Signal word: Danger, Irritant, Warning

Hazard statement(s)

H302 Harmful if swallowed.

H315 Causes skin irritation.

H317 May cause an allergic skin reaction.

H319 Causes serious eye irritation.

H335 May cause respiratory irritation.

H350 May cause cancer.

H402 Harmful to aquatic life.

Precautionary statement(s)

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have been read and understood.

P261 Avoid breathing dust/ fume/ gas/ mist/ vapors/ spray.

P281 Use personal protective equipment as required.

P264 Wash skin 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 should not be allowed out of the workplace.

P273 Avoid release to the environment.

P280 Wear eye protection/ face protection.

P280 Wear protective gloves.

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER or doctor/ physician if you feel unwell. Rinse mouth.

P302 + P352 IF ON SKIN: Wash with plenty of soap and water.

P304 + P340 + P312 IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. Call a POISON CENTER or doctor/ physician if you feel unwell.

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.

P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.

P337 + P313 If eye irritation persists: Get medical advice/ attention.

P362 Take off contaminated clothing and wash before reuse.

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.

P405 Store locked up.

P501 Dispose of contents/ container to an approved waste disposal plant.

2.3 Hazards not otherwise classified (HNOC) or not covered by GHS - none

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS
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3.1 Mixtures:

Alpha-Naphthyl Acid Phosphate Monosodium Salt, Synonyms: Not available, Formula : C₁₀H₈O₄PNa, CAS No. : 81012-89-7, EC-No. : 264-899-3

Fast Blue B Salt, Synonyms: Diazo Blue B, Naphthanyl Diazo Blue B, o-Dianisidine bis(diazotized) zinc double salt, Azoic Diazo No. 48, Formula: C₁₄H₁₂Cl₄N₄O₂Zn, Molecular weight: 475.47 g/mol, CAS-No. : 14263-94-6

Maleic acid, Synonyms : Toxilic acid, cis-Butenedioic acid, Formula : C₄H₄O₄, Molecular weight : 116.07 g/mol, CAS-No. : 110-16-7, EC-No. : 203-742-5, Index-No. : 607-095-00-3

Sodium phosphate dibasic, Synonyms: Disodium hydrogen phosphate, sec-Sodium phosphate, Disodium phosphate, Sodium hydrogenphosphate, Formula : $\text{HNa}_2\text{O}_4\text{P}$, Molecular Weight : 141.96 g/mol, CAS-No. : 7558-79-4, EC-No. : 231-448-7

3.2 Hazardous Components: o-Dianiside CAS-No. 119-90-4, EC-No. 204-355-4, Index-No. 612-036-00-X, Acute Tox. 4; Carc. 1B; H302, H350, Maleic acid Acute Tox. 4; Skin Irrit. 2; Eye Irrit. 2A; Skin Sens. 1; STOT SE 3; Aquatic Acute 3; H302, H315, H317, H319, H335, H402

3.3 Component Percentage/Concentration has been withheld as a trade secret.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

General advice: Move out of dangerous area. 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. Consult a physician.

In case of skin contact: Wash off with soap and plenty of water. Consult a physician.

In case of eye contact: Rinse thoroughly with plenty of water for at least 15 minutes and consult a physician.

If swallowed: Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

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

Suitable extinguishing media: Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

5.2 Special hazards arising from the substance or mixture: Carbon oxides, Hydrogen chloride gas, Oxides of phosphorus, Nitrogen oxides (NO_x), Sodium oxides, Zinc/zinc oxides

5.3 Advice for firefighters: Wear self-contained breathing apparatus for firefighting if necessary.

5.4 Further information: No data available

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 Personal precautions, protective equipment and emergency procedures: Use personal protective equipment. Avoid dust formation. Avoid breathing vapors, mist or gas. Ensure adequate ventilation. Evacuate personnel to safe areas. Avoid breathing dust. For personal protection see section 8.

6.2 Environmental precautions: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up: Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.

6.4 Reference to other sections: For disposal see section 13.

SECTION 7: HANDLING AND STORAGE

7.1 Precautions for safe handling: 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. Keep away from heat. Keep away from sources of ignition. For precautions see section 2.2.

7.2 Conditions for safe storage, including any incompatibilities: Recommended storage temperature: Store frozen at -15°C to -30°C. Hygroscopic. Keep container tightly closed in a dry and well-ventilated place. Keep in a dry place. Storage class (TRGS 510): Non Combustible Solids

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: Components with workplace control parameters: Contains no substances with occupational exposure limit values.

8.2 Exposure controls

Appropriate engineering controls: Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.

Personal protective equipment: Eye/face protection, Safety glasses with side-shields conforming to EN166 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.

Full contact: Material: Nitrile rubber, Minimum layer thickness: 0.11 mm, Break through time: 480 min, Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

Splash contact: Material: Nitrile rubber, Minimum layer thickness: 0.11 mm, Break through time: 480 min, Material tested: Dermatril® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

Body Protection: Impervious clothing. Complete suit protecting against chemicals. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

Respiratory protection: For nuisance exposures use type P95 (US) or type P1 (EU EN 143) particle respirator. For higher level protection use type OV/AG/P99 (US) or type ABEK-P2 (EU EN 143) respirator cartridges. Where risk assessment shows air-purifying respirators are appropriate use a full-face particle respirator type N100 (US) or type P3 (EN 143) respirator cartridges as a backup to engineering controls. If the respirator is the sole means of protection, use a full-face supplied air respirator. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

Control of environmental exposure: Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

a) Appearance Form: Powder, Color: White/Grey/Tan, b) Odor: No data available, c) Odor Threshold: No data available, d) pH: No data available, e) Melting point/freezing point: Melting point/range: 137 - 140 °C (279 - 284 °F) - lit., f) Initial boiling point and boiling range: 160 °C (320 °F), g) Flash point: 127 °C (261 °F) - closed cup, h) Evaporation rate: No data available, i) Flammability (solid, gas): No data available, j) Upper/lower flammability or explosive limits: Lower explosion limit: 2.7 %(V), k) Vapor pressure: No data available, l) Vapor density: No data available, m) Relative density: No data available, n) Water solubility: soluble, o) Partition coefficient: noctanol/water: No data available, p) Auto-ignition

temperature: No data available, q) Decomposition temperature: No data available, r) Viscosity: No data available, s) Explosive properties: No data available, t) Oxidizing properties: No data available

9.2 Other safety information: Dust explosion class St2

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity: No data available, Chemical stability: Stable under recommended storage conditions, Possibility of hazardous reactions: No data available, Conditions to avoid: Exposure to moisture, Incompatible materials: Strong oxidizing agents, Strong acids, Hazardous decomposition products: Other decomposition products - These products are carbon oxides (CO, CO₂), phosphates. Some metallic oxides., In the event of fire: see section 5

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity: LD50 Oral - Rat - 708 mg/kg, Remarks: Behavioral: Convulsions or effect on seizure threshold. Behavioral: Muscle weakness. Gastrointestinal: Ulceration or bleeding from stomach. LC50 Inhalation - Rat - 1 h - > 720 mg/m³, LD50 Dermal - Rat - > 5,000 mg/kg, Inhalation: Lung Irritant, Material is irritating to mucous membranes and upper respiratory tract., Dermal: Hazardous in case of skin contact (irritant), Skin corrosion/irritation: Skin – Rabbit Result: Mild skin irritation - 24 h, Serious eye damage/eye irritation: Eyes – Rabbit Result: Severe eye irritation, Respiratory or skin sensitization: No data available, Germ cell mutagenicity: No data available, Carcinogenicity: IARC: 1 - Group 1: Carcinogenic to humans (o-Dianiside), ACGIH: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH., NTP: Reasonably anticipated to be a human carcinogen (o-Dianiside), OSHA: No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by OSHA., Reproductive toxicity: No data available, Specific target organ toxicity - single exposure: May cause respiratory irritation., Specific target organ toxicity - repeated exposure: No data available, Aspiration hazard: No data available

Additional Information: RTECS: WC4500000, Stomach - Irregularities - Based on Human Evidence, Stomach - Irregularities - Based on Human Evidence (o-Dianiside), Gastrointestinal disturbance

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity: Toxicity to fish: LC50 - Oncorhynchus mykiss (rainbow trout) - 75 mg/l - 96 h Remarks: Read-across (Analogy)

Toxicity to daphnia and other aquatic invertebrates: EC50 - Daphnia magna (Water flea) - 42.81 mg/l - 48 h, NOEC - Daphnia magna (Water flea) - 17.5 mg/l - 48 h

Toxicity to algae: EC50 - Desmodesmus subspicatus (green algae) - 41 mg/l - 72 h

12.2 Persistence and degradability: Biodegradability Result: 97 % - Readily biodegradable. (OECD Test Guideline 301B)

12.3 Bioaccumulative potential: Bioaccumulation Leuciscus idus melanotus - 3 d - 31 µg/l Bioconcentration factor (BCF): < 10

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 Other adverse effects: An environmental hazard cannot be excluded in the event of unprofessional handling or disposal. Harmful to aquatic life.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods: Product Contact a licensed professional waste disposal service to dispose of this material. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber. Offer surplus and non-recyclable solutions to a licensed disposal company.

Contaminated packaging: Dispose of as unused product.

SECTION 14: TRANSPORT INFORMATION

DOT (US): UN number: 3077 Class: 9 Packing group: III Proper shipping name: Environmentally hazardous substance, solid, n.o.s. (Maleic acid) (Disodium hydrogenorthophosphate), Reportable Quantity (RQ): 5000 lbs, Marine pollutant: No, Poison Inhalation Hazard: No

IMDG: Not dangerous goods

IATA: Not dangerous goods

SECTION 15: REGULATORY INFORMATION

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

SARA 311/312 Hazards: Chronic Health Hazard

SARA 313 Components: The following components are subject to reporting levels established by SARA Title III, Section 313: o-Dianiside, CAS-No. 119-90-4, Revision Date 2007-07-01, 3,3'-Dimethoxybiphenyl-4,4'-di(diazonium) zinc chloride, CAS-No. 14263-94-6, 2007-07-01

Massachusetts Right To Know Components: o-Dianiside, CAS-No. 119-90-4, Revision Date 2007-07-01, Maleic acid, CAS-No. 110-16-7, Revision Date 2007-03-01, Disodium hydrogenorthophosphate, CAS-No. 7558-79-4, Revision Date 2007-03-01

Pennsylvania Right To Know Components: o-Dianiside, CAS-No. 119-90-4, Revision Date 2007-07-01, 3,3'-Dimethoxybiphenyl-4,4'-di(diazonium) zinc chloride, CAS-No. 14263-94-6, 2007-07-01, Maleic acid, CAS-No. 110-16-7, Revision Date 2007-03-01, Disodium hydrogenorthophosphate, CAS-No. 7558-79-4, Revision Date 2007-03-01

New Jersey Right To Know Components: o-Dianiside, CAS-No. 119-90-4, Revision Date 2007-07-01, 3,3'-Dimethoxybiphenyl-4,4'-di(diazonium) zinc chloride, CAS-No. 14263-94-6, 2007-07-01, Maleic acid, CAS-No. 110-16-7, Revision Date 2007-03-01, Disodium hydrogenorthophosphate, CAS-No. 7558-79-4, Revision Date 2007-03-01

California Prop. 65 Components: WARNING! This product contains a chemical known to the State of California to cause cancer. o-Dianiside, CAS-No. 119-90-4, Revision Date 2007-09-28

SECTION 16: OTHER INFORMATION

Full text of H-Statements referred to under sections 2 and 3.

Acute Tox. Acute toxicity, Aquatic Acute Acute aquatic toxicity, Carc. Carcinogenicity, Eye Irrit. Eye irritation

H302 Harmful if swallowed. H315 Causes skin irritation. H317 May cause an allergic skin reaction. H319 Causes serious eye irritation. H335 May cause respiratory irritation. H350 May cause cancer. H402 Harmful to aquatic life.

HMS Rating: Health hazard: 2, Chronic Health Hazard: *, Flammability: 1, Physical Hazard 0

NFPA Rating: Health hazard: 2, Fire Hazard: 1, Reactivity Hazard: 0

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