

• SAFETY DATA SHEET

Version 8.23
Revision Date 11/27/2025
Print Date 11/28/2025

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Naphthol AS-D Chloroacetate (Specific Esterase) Kit

Product Number : 91C
Brand : Sigma

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

Identified uses : Laboratory chemicals, Synthesis of substances

Uses advised against : The product is being supplied under the TSCA R&D Exemption (40 CFR Section 720.36). It is the recipient's responsibility to comply with the requirements of the R&D exemption. The product may not be used for a non-exempt commercial purpose under TSCA unless appropriate consent is granted in writing by MilliporeSigma.

1.3 Details of the supplier of the safety data sheet

Company : Sigma-Aldrich Inc.
3050 SPRUCE ST
ST. LOUIS MO 63103
UNITED STATES

Telephone : +1 314 771-5765
Fax : +1 800 325-5052

1.4 Emergency telephone number

Emergency Phone # : 800-424-9300 CHEMTREC (USA) +1-703-527-3887 CHEMTREC (International) 24 Hours/day; 7 Days/week

This is a summary SDS for a kit. For the full SDS for each of the components listed in section 16 please visit our website.

This is a summary SDS for a kit. For the full SDS for each of the components listed in section 16 please visit our website.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with the OSHA Hazard Communication Standard (29 CFR 1910.1200)

Hazards for the product as supplied

Corrosive to metals	: Category 1
Acute toxicity (Oral)	: Category 4
Skin corrosion	: Sub-category 1B
Serious eye damage	: Category 1
Skin sensitisation	: Category 1
Reproductive toxicity	: Category 1B
Specific target organ toxicity - repeated exposure (Oral)	: Category 2 (Kidney)
Short-term (acute) aquatic hazard	: Category 3

Other hazards

May form explosive peroxides.

GHS label elements

Hazard pictograms



Signal word

: Danger

Hazard statements

: H290 May be corrosive to metals.
H302 Harmful if swallowed.
H314 Causes severe skin burns and eye damage.
H317 May cause an allergic skin reaction.
H360 May damage fertility or the unborn child.
H373 May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.
H402 Harmful to aquatic life.

Supplemental Hazard Statements

: Corrosive to the respiratory tract.

Precautionary statements

Prevention:

P201 Obtain special instructions before use.
P202 Do not handle until all safety precautions have

been read and understood.
P234 Keep only in original packaging.
P260 Do not breathe mist or vapours.
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 must not be allowed out of the workplace.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.

Response:

P301 + P312 + P330 IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth.
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P333 + P313 If skin irritation or rash occurs: Get medical advice/ attention.
P362 + P364 Take off contaminated clothing and wash it before reuse.
P390 Absorb spillage to prevent material damage.

Storage:

P403 + P233 Store in a well-ventilated place. Keep container tightly closed.
P405 Store locked up.
P406 Store in a corrosion resistant container with a resistant inner liner.

Disposal:

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Refer to component SDS

SECTION 4. FIRST AID MEASURES

Refer to component SDS

SECTION 5. FIREFIGHTING MEASURES

Refer to component SDS

SECTION 6. ACCIDENTAL RELEASE MEASURES

Refer to component SDS

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

Advice on safe handling : Work under hood. Do not inhale substance/mixture.
Avoid generation of vapours/aerosols.

Conditions for safe storage : Keep container tightly closed in a dry and well-ventilated place.

No metal containers.

Further information on storage conditions : Tightly closed.
Keep in a well-ventilated place.
Keep locked up or in an area accessible only to qualified or authorised persons.

Storage class : 6.1C, Combustible, acute toxic Cat.3 / toxic compounds or compounds which causing chronic effects

Recommended storage temperature : 36 - 46 °F / 2 - 8 °C

/

Further information on storage stability : Test for peroxide formation periodically and before distillation.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Refer to component SDS

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Refer to component SDS

SECTION 10. STABILITY AND REACTIVITY

Refer to component SDS

SECTION 11. TOXICOLOGICAL INFORMATION

Refer to component SDS

SECTION 12. ECOLOGICAL INFORMATION

Refer to component SDS

SECTION 13. DISPOSAL CONSIDERATIONS

Refer to component SDS

SECTION 14. TRANSPORT INFORMATION**International Regulations****IATA-DGR**

UN/ID No. : UN 3316
Proper shipping name : Chemical kit
Class : 9
Packing group : II
Labels : Class 9 - Miscellaneous dangerous substances and articles
Packing instruction (cargo aircraft) : 960
Packing instruction (passenger aircraft) : 960

IMDG-Code

UN number : UN 3316
Proper shipping name : CHEMICAL KIT
Class : 9
Packing group : II
Labels : 9
EmS Code : F-A, S-P
Marine pollutant : no

Transport in bulk according to IMO instruments

Not applicable for product as supplied.

National Regulations**49 CFR Road**

UN/ID/NA number : UN 3316
Proper shipping name : Chemical kits
Class : 9

Sigma - 91C

Page 5 of 12

Packing group : II
Labels : Class 9 - Miscellaneous dangerous substances and articles
ERG Code : 171
Marine pollutant : no

Poison Inhalation Hazard : No

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

SARA 311/312 Hazards : Acute Health Hazard

SECTION 16. OTHER INFORMATION

Kit Components:

Naphthol AS-D	Sigma	911
Chloroacetate solution		
Fast Red Violet LB Base solution	Sigma	912
Trizmal™ buffer	Sigma	913
Sodium nitrite solution	Sigma	914
Citrate Solution	Sigma	915
HEMATOXYLIN SOLUTION GILL NO 3	Sigma	GHS3

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ASTM - American Society for the Testing of Materials; bw - Body weight; CERCLA - Comprehensive Environmental Response, Compensation, and Liability Act; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DOT - Department of Transportation; DSL - Domestic Substances List (Canada); ECx - Concentration associated with x% response; EHS - Extremely Hazardous Substance; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; ERG - Emergency Response Guide; GHS - Globally Harmonised System; GLP - Good Laboratory Practice; HMIS - Hazardous Materials Identification System; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organisation; ISHL - Industrial Safety and Health Law (Japan); ISO -

International Organisation for Standardisation; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; MSHA - Mine Safety and Health Administration; n.o.s. - Not Otherwise Specified; NFPA - National Fire Protection Association; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NTP - National Toxicology Program; NZIoC - New Zealand Inventory of Chemicals; OECD - Organisation for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance; PICCS - Philippines Inventory of Chemicals and Chemical Substances; (Q)SAR - (Quantitative) Structure Activity Relationship; RCRA - Resource Conservation and Recovery Act; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RQ - Reportable Quantity; SADT - Self-Accelerating Decomposition Temperature; SARA - Superfund Amendments and Reauthorization Act; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TECI - Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Copyright 2025 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

The information is believed to be correct but is not exhaustive and will be used solely as a guideline, which is based on current knowledge of the chemical substance or mixture and is applicable to appropriate safety precautions for the product. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See www.sigma-aldrich.com and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

Copyright 2025 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

Revision Date : 11/27/2025

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact mlsbranding@sial.com.

US / EN

Kit Components:

Naphthol AS-D Chloroacetate solution					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - 911		Danger	May damage fertility or the unborn child.	Obtain special instructions before use. IF exposed or concerned: Get medical advice/ attention. Store locked up. Dispose of contents/ container to an approved waste disposal plant. Do not handle until all safety precautions have been read and understood. Wear protective gloves/ protective clothing/ eye protection/ face protection.	

Fast Red Violet LB Base solution					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - 912		Warning	May be corrosive to metals. Harmful if swallowed. Causes skin irritation. Causes serious eye irritation. May cause respiratory irritation.	Keep only in original packaging. IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. Store in a well-ventilated place. Keep container tightly	

				<p>closed. Dispose of contents/ container to an approved waste disposal plant. Avoid breathing mist or vapours. IF ON SKIN: Wash with plenty of water. Store locked up. Wash skin thoroughly after handling. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell. Store in a corrosion resistant container with a resistant inner liner. Do not eat, drink or smoke when using this product. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Use only outdoors or in a well-ventilated area. If skin irritation occurs: Get medical advice/ attention. Wear protective gloves/ eye</p>	
--	--	--	--	--	--

				protection/ face protection. If eye irritation persists: Get medical advice/ attention. Absorb spillage to prevent material damage.	
--	--	--	--	---	--

Trizmal™ buffer					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - 913		Danger	Causes severe skin burns and eye damage. May cause an allergic skin reaction.	<p>Avoid breathing mist or vapours. IF SWALLOWED: Rinse mouth. Do NOT induce vomiting. Store locked up. Dispose of contents/ container to an approved waste disposal plant. Wash skin thoroughly after handling. IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower. Contaminated work clothing must not be allowed out of the workplace. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor. Wear protective gloves/</p>	

Sigma - 91C

Page 10 of 12

				<p>protective clothing/ eye protection/ face protection. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. If skin irritation or rash occurs: Get medical advice/ attention. Take off contaminated clothing and wash it before reuse.</p>	
--	--	--	--	--	--

Sodium nitrite solution

Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - 914			Harmful to aquatic life.	Avoid release to the environment. Dispose of contents/ container to an approved waste disposal plant.	

Citrate Solution

Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - 915					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

HEMATOXYLIN SOLUTION GILL NO 3

Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - GHS3		Danger	Harmful if swallowed. Causes serious eye damage. May cause damage to organs (Kidney) through prolonged or repeated exposure if swallowed.	Do not breathe mist or vapours. IF SWALLOWED: Call a POISON CENTER/ doctor if you feel unwell. Rinse mouth. Dispose of contents/ container to an approved waste disposal plant. Wash skin thoroughly after handling. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor. Do not eat, drink or smoke when using this product. Get medical advice/ attention if you feel unwell. Wear eye protection/ face protection.	