• SAFETY DATA SHEET

Version 6.19
Revision Date 11/24/2025
Print Date 11/25/2025

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : Duolink® In Situ Detection Reagents Red

Product Number : DUO92008
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.

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SECTION 2. HAZARDS IDENTIFICATION

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

Hazards for the product as supplied

Respiratory sensitisation	:	Category 1
Short-term (acute) aquatic hazard	:	Category 3
Long-term (chronic) aquatic hazard	:	Category 3

Other hazards

None known.

GHS label elements

Hazard pictograms :



Signal word : Danger

Hazard statements : H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H412 Harmful to aquatic life with long lasting effects.

Precautionary statements :

Prevention:

P261 Avoid breathing mist or vapours.
P273 Avoid release to the environment.
P285 In case of inadequate ventilation wear respiratory protection.

Response:

P304 + P340 IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P342 + P311 If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.

Disposal:

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Refer to component SDS

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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.
Further information on storage conditions	:	Tightly closed. Keep locked up or in an area accessible only to qualified or authorised persons.
Storage class	:	10, Combustible liquids
Recommended storage temperature	:	-4 °F / -20 °C

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

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SECTION 12. ECOLOGICAL INFORMATION

Refer to component SDS

SECTION 13. DISPOSAL CONSIDERATIONS

Refer to component SDS

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR
Not regulated as a dangerous good

IMDG-Code
Not regulated as a dangerous good

Transport in bulk according to IMO instruments
Not applicable for product as supplied.

National Regulations

49 CFR Road
Not regulated as a dangerous good

Poison Inhalation Hazard : No

Special precautions for user

Remarks : Not classified as dangerous in the meaning of transport regulations.

SECTION 15. REGULATORY INFORMATION

CERCLA Reportable Quantity
This material does not contain any components with a CERCLA RQ.

SARA 304 Extremely Hazardous Substances Reportable Quantity
This material does not contain any components with a section 304 EHS RQ.

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

Components	CAS-No.	Component TPQ (lbs)
5x Ligation Buffer	Not Assigned	
Duolink® Polymerase (10u/µl)	Not Assigned	
Polymerase (10U/µL), 30RXN	Not Assigned	
Duolink Ligase (1 U/µl)	Not Assigned	
Ligase (1U/µL), 30RXN	Not Assigned	
Duolink Amplification Red (5x)	Not Assigned	

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

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SARA 313 : 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.

Clean Air Act

Warning: Manufactured with 5x Ligation Buffer, Duolink® Polymerase (10u/µl), Polymerase (10U/µL), 30RXN, Duolink Ligase (1 U/µl), Ligase (1U/µL), 30RXN, Duolink Amplification Red (5x), a substance which harms public health and environment by destroying ozone in the upper atmosphere.

40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I SubstancesOzone-Depletion Potential :

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40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I SubstancesOzone-Depletion Potential :

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).
The following chemical(s) are listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F):

5x Ligation Buffer	Not Assigned	>= 90 - <= 100 %
Duolink Amplification Red (5x)	Not Assigned	>= 90 - <= 100 %
Ligase (1U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Polymerase (10U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Duolink Ligase (1 U/µl)	Not Assigned	>= 90 - <= 100 %
Duolink® Polymerase (10u/µl)	Not Assigned	>= 90 - <= 100 %

The following chemical(s) are listed under the U.S. Clean Air Act Section 111 SOCMI Intermediate or Final VOC's (40 CFR 60.489):

5x Ligation Buffer	Not Assigned	>= 90 - <= 100 %
Duolink Amplification Red (5x)	Not Assigned	>= 90 - <= 100 %
Ligase (1U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Polymerase (10U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Duolink Ligase (1 U/µl)	Not Assigned	>= 90 - <= 100 %
Duolink® Polymerase (10u/µl)	Not Assigned	>= 90 - <= 100 %

Clean Water Act

The following Hazardous Substances are listed under the U.S. CleanWater Act, Section 311, Table 116.4A:

5x Ligation Buffer	Not Assigned	>= 90 - <= 100 %
Duolink Amplification Red (5x)	Not Assigned	>= 90 - <= 100 %
Ligase (1U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Polymerase (10U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Duolink Ligase (1 U/µl)	Not Assigned	>= 90 - <= 100 %
Duolink® Polymerase (10u/µl)	Not Assigned	>= 90 - <= 100 %

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The following Hazardous Chemicals are listed under the U.S. CleanWater Act, Section 311, Table 117.3:

5x Ligation Buffer	Not Assigned	>= 90 - <= 100 %
Duolink Amplification Red (5x)	Not Assigned	>= 90 - <= 100 %
Ligase (1U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Polymerase (10U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Duolink Ligase (1 U/µl)	Not Assigned	>= 90 - <= 100 %
Duolink® Polymerase (10u/µl)	Not Assigned	>= 90 - <= 100 %

This product contains the following toxic pollutants listed under the U.S. Clean Water Act Section 307

5x Ligation Buffer	Not Assigned	>= 90 - <= 100 %
Duolink Amplification Red (5x)	Not Assigned	>= 90 - <= 100 %
Ligase (1U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Polymerase (10U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Duolink Ligase (1 U/µl)	Not Assigned	>= 90 - <= 100 %
Duolink® Polymerase (10u/µl)	Not Assigned	>= 90 - <= 100 %

This product contains the following priority pollutants related to the U.S. Clean Water Act:

5x Ligation Buffer	Not Assigned	>= 90 - <= 100 %
Duolink Amplification Red (5x)	Not Assigned	>= 90 - <= 100 %
Ligase (1U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Polymerase (10U/µL), 30RXN	Not Assigned	>= 90 - <= 100 %
Duolink Ligase (1 U/µl)	Not Assigned	>= 90 - <= 100 %
Duolink® Polymerase (10u/µl)	Not Assigned	>= 90 - <= 100 %

US State Regulations

Massachusetts Right To Know

5x Ligation Buffer	Not Assigned
Duolink Amplification Red (5x)	Not Assigned
Ligase (1U/µL), 30RXN	Not Assigned
Polymerase (10U/µL), 30RXN	Not Assigned
Duolink Ligase (1 U/µl)	Not Assigned
Duolink® Polymerase (10u/µl)	Not Assigned

Pennsylvania Right To Know

Ligase (1U/µL), 30RXN	Not Assigned
Polymerase (10U/µL), 30RXN	Not Assigned
Duolink Ligase (1 U/µl)	Not Assigned

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Duolink® Polymerase (10u/µl)	Not Assigned

Maine Chemicals of High Concern

5x Ligation Buffer	Not Assigned
Duolink Amplification Red (5x)	Not Assigned
Ligase (1U/µL), 30RXN	Not Assigned
Polymerase (10U/µL), 30RXN	Not Assigned
Duolink Ligase (1 U/µl)	Not Assigned
Duolink® Polymerase (10u/µl)	Not Assigned

Vermont Chemicals of High Concern

5x Ligation Buffer	Not Assigned
Duolink® Polymerase (10u/µl)	Not Assigned
Polymerase (10U/µL), 30RXN	Not Assigned
Duolink Ligase (1 U/µl)	Not Assigned
Ligase (1U/µL), 30RXN	Not Assigned
Duolink Amplification Red (5x)	Not Assigned

Washington Chemicals of High Concern

5x Ligation Buffer	Not Assigned
Duolink® Polymerase (10u/µl)	Not Assigned
Polymerase (10U/µL), 30RXN	Not Assigned
Duolink Ligase (1 U/µl)	Not Assigned
Ligase (1U/µL), 30RXN	Not Assigned
Duolink Amplification Red (5x)	Not Assigned

The components of this product are reported in the following inventories:

TSCA : Product contains substance(s) not listed on TSCA inventory.

TSCA list

The following substance(s) is/are subject to a Significant New Use Rule:

5x Ligation Buffer	Not Assigned
Duolink® Polymerase (10u/µl)	Not Assigned
Polymerase (10U/µL), 30RXN	Not Assigned
Duolink Ligase (1 U/µl)	Not Assigned
Ligase (1U/µL), 30RXN	Not Assigned
Duolink Amplification Red (5x)	Not Assigned

The following substance(s) is/are subject to TSCA 12(b) export notification requirements:

5x Ligation Buffer	Not Assigned
Duolink® Polymerase (10u/µl)	Not Assigned
Polymerase (10U/µL), 30RXN	Not Assigned
Duolink Ligase (1 U/µl)	Not Assigned
Ligase (1U/µL), 30RXN	Not Assigned
Duolink Amplification Red (5x)	Not Assigned

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SECTION 16. OTHER INFORMATION

Kit Components:

5x Ligation Buffer	Sigma	DUO82009
Duolink® Polymerase (10u/µl)	Sigma-Aldrich	DUO82030
Polymerase (10U/µL), 30RXN	Sigma	DUO82028
Duolink Ligase (1 U/µl)	Sigma-Aldrich	DUO82029
Ligase (1U/µL), 30RXN	Sigma	DUO82027
Duolink Amplification Red (5x)	Sigma	DUO82011

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

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US / EN

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Kit Components:

5x Ligation Buffer					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - DUO82009					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

Duolink® Polymerase (10u/µl)					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma-Aldrich - DUO82030			Harmful to aquatic life with long lasting effects.	Avoid release to the environment. Dispose of contents/ container to an approved waste disposal plant.	

Polymerase (10U/µL), 30RXN					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - DUO82028		Danger	May cause allergy or asthma symptoms or breathing difficulties if inhaled. Harmful to aquatic life with long lasting effects.	Avoid breathing mist or vapours. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Dispose of contents/ container to an approved waste disposal plant. Avoid release to the environment. If	

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				experiencing respiratory symptoms: Call a POISON CENTER/ doctor. In case of inadequate ventilation wear respiratory protection.	

Duolink Ligase (1 U/µl)					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma-Aldrich - DUO82029					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

Ligase (1U/µL), 30RXN					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - DUO82027		Danger	May cause allergy or asthma symptoms or breathing difficulties if inhaled.	Avoid breathing mist or vapours. IF INHALED: Remove person to fresh air and keep comfortable for breathing. Dispose of contents/ container to an approved waste disposal plant. In case of inadequate ventilation wear respiratory protection. If experiencing respiratory symptoms: Call a POISON CENTER/ doctor.	

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Duolink Amplification Red (5x)					
Product identifier	Pictogram	Signal word	Hazard statements	Precautionary statements	Supplemental information
Sigma - DUO82011					No hazard pictogram, no signal word, no hazard statement(s), no precautionary statement(s) required.

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