

SAFETY DATA SHEET

Version 6.15 Revision Date 05/20/2025 Print Date 05/21/2025

SECTION 1. IDENTIFICATION

1.1 Product identifiers

Product name : 1,2-Dichloropropane

Product Number : 82270

Brand : Sigma-Aldrich Index-No. : 602-020-00-0 CAS-No. : 78-87-5

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 purpos

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

SECTION 2. HAZARDS IDENTIFICATION

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

Flammable liquids : Category 2

Acute toxicity (Oral) : Category 4

Sigma-Aldrich - 82270

Page 1 of 16



Acute toxicity (Inhalation)

: Category 3

Carcinogenicity : Category 1B

Short-term (acute) aquatic hazard

: Category 2

Other hazards

None known.

GHS label elements

Hazard pictograms







Signal Word : Danger

Hazard Statements : H225 Highly flammable liquid and vapour.

H302 Harmful if swallowed. H331 Toxic if inhaled. H350 May cause cancer. H401 Toxic to aquatic life.

Precautionary statements:

Prevention:

P201 Obtain special instructions before use.

P202 Do not handle until all safety precautions have

been read and understood.

P210 Keep away from heat, hot surfaces, sparks, open

flames and other ignition sources. No smoking.

P233 Keep container tightly closed.

P240 Ground and bond container and receiving

equipment.

P241 Use explosion-proof electrical/ ventilating/ lighting

equipment.

P242 Use non-sparking tools.

P243 Take action to prevent static discharges.

P261 Avoid breathing 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.

P273 Avoid release to the environment.

P280 Wear protective gloves, protective clothing, eye

protection and face protection.

Response:

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



P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.

P304 + P340 + P311 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a

POISON CENTER/ doctor.

P308 + P313 IF exposed or concerned: Get medical

advice/ attention.

P370 + P378 In case of fire: Use dry sand, dry chemical

or alcohol-resistant foam to extinguish.

Storage:

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

P403 + P235 Store in a well-ventilated place. Keep cool.

P405 Store locked up.

Disposal:

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

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Components

	CAS No./Unique ID	Concentration (% w/w)	Trade secret
1,2-Dichloropropane	78-87-5*	>= 80 - <= 100	TSC

^{*} Indicates that the identifier is a CAS No.

TSC- the actual concentration or concentration range is withheld as a trade secret

SECTION 4. FIRST AID MEASURES

General advice : First aiders need to protect themselves.

Show this safety data sheet to the doctor in

attendance.

If inhaled : After inhalation: fresh air. Immediately call in

physician.

If breathing stops: immediately apply artificial

respiration, if necessary also oxygen.

In case of skin contact : In case of skin contact: Take off immediately all

contaminated clothing. Rinse skin with water/ shower.

Consult a physician.

In case of eye contact : After eye contact: rinse out with plenty of water.

Call in ophthalmologist.

Sigma-Aldrich - 82270 Page 3 of 16



Remove contact lenses.

If swallowed : After swallowing: caution if victim vomits. Risk of

aspiration! Keep airways free.

Pulmonary failure possible after aspiration of vomit.

Call a physician immediately.

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

Protection of first-aiders : For personal protection see section 8.

Notes to physician : No data available

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing

media

: Water Foam

Carbon dioxide (CO2)

Dry powder

Unsuitable extinguishing

media

: For this substance/mixture no limitations of

extinguishing agents are given.

Specific hazards during

fire fighting

: Combustible.

Pay attention to flashback.

Vapours are heavier than air and may spread along

floors.

Development of hazardous combustion gases or

vapours possible in the event of fire.

Forms explosive mixtures with air at ambient

temperatures.

Hazardous combustion

products

: Carbon oxides

Hydrogen chloride gas

Sigma-Aldrich - 82270

Page 4 of 16



Specific extinguishing

methods

: No data available

Further information

: Remove container from danger zone and cool with

water.

Suppress (knock down) gases/vapours/mists with a

water spray jet.

Prevent fire extinguishing water from contaminating

surface water or the ground water system.

Special protective equipment for fire-

fighters

: Stay in danger area only with self-contained breathing apparatus. Prevent skin contact by keeping a safe distance or by wearing suitable protective clothing.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures : Advice for non-emergency personnel:

Do not breathe vapours, aerosols.

Avoid substance contact.
Ensure adequate ventilation.

Keep away from heat and sources of ignition. Evacuate the danger area, observe emergency

procedures, consult an expert. Advice for emergency responders: For personal protection see section 8.

Environmental precautions

: Do not let product enter drains.

Risk of explosion.

Methods and materials for containment and cleaning up

: Cover drains. Collect, bind, and pump off spills.

Observe possible material restrictions (see sections 7

and 10).

Take up carefully with liquid-absorbent material (e.g. Chemizorb®). Dispose of properly. Clean up affected

area

SECTION 7. HANDLING AND STORAGE

For precautions see section 2.2.

Advice on protection against fire and explosion

Keep away from open flames, hot surfaces and

sources of ignition.

Take precautionary measures against static discharge.

Advice on safe handling

: Work under hood. Do not inhale substance/mixture.

Avoid generation of vapours/aerosols.

Sigma-Aldrich - 82270

1illiPDRE

Page 5 of 16

Further information on storage conditions

: Keep container tightly closed in a dry and well-

ventilated place.

Keep away from heat and sources of ignition. Keep locked up or in an area accessible only to

qualified or authorised persons.

Storage class : 3, Flammable liquids

Recommended storage

temperature

: Recommended storage temperature see product label.

Packaging material : Suitable material: Mild Steel Drum

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parameters / Permissible concentration	Basis
1,2-Dichloropropane	78-87-5	TWA	10 ppm	ACGIH
		TWA	75 ppm 350 mg/m3	OSHA Z-1

Engineering measures : No data available

Personal protective equipment

Respiratory protection : required when vapours/aerosols are generated.

Our recommendations on filtering respiratory

protection are based on the following standards: DIN

EN 143, DIN 14387 and other accompanying

standards relating to the used respiratory protection

system.

Recommended Filter

type:

: Filter type ABEK

The entrepeneur has to ensure that maintenance, cleaning and testing of respiratory protective devices are carried out according to the instructions of the producer. These measures have to be properly documented.

Hand protection

Material : Viton®
Break through time : 480 min
Glove thickness : 0.7 mm
Protective index : Full contact



Manufacturer : KCL 890 Vitoject®

Material : butyl-rubber
Break through time : 10 min
Glove thickness : 0.7 mm

Protective index : Splash contact
Manufacturer : KCL 898 Butoject®

Remarks : This recommendation applies only to the product

stated in the safety data sheet, supplied by us and for the designated use. When dissolving in or mixing with other substances and under conditions deviating from those stated in EN 16523-1 please contact the supplier of CE-approved gloves (e.g. KCL GmbH, D-

36124 Eichenzell, Internet: www.kcl.de).

Eye protection : Use equipment for eye protection tested and

approved under appropriate government standards

such as NIOSH (US) or EN 166(EU).

Safety glasses

Skin and body protection : Flame retardant antistatic protective clothing.

Hygiene measures : Immediately change contaminated clothing. Apply

preventive skin protection. Wash hands and face

after working with substance.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance : liquid, clear

Color : clear

Odor : No data available

Odor Threshold : No data available pH : No data available

Melting point/ range : -148 °F / -100 °C

Method: lit.

Boiling point/boiling range : 203 - 205 °F / 95 - 96 °C

Method: lit.

Flash point : $59.0 \, ^{\circ}\text{F} / 15.0 \, ^{\circ}\text{C}$

Method: closed cup

Evaporation rate : No data available

Flammability (solid, gas) : No data available

Flammability (liquids) : No data available

Burning rate : No data available

Self-ignition : 1034.6 °F / 557.0 °C

Upper explosion limit / Upper flammability limit

: Upper explosion limit

14.5 %(V)

Lower explosion limit / Lower flammability limit : Lower explosion limit

3.4 %(V)

Vapor pressure : 66.17 - 71.98 hPa (77 °F / 25 °C)

Relative vapour density : No data available

Relative density : $1.061 (68 \degree F / 20 \degree C)$

Method: Regulation (EC) No. 440/2008, Annex, A.3

GLP: yes

Density : 1.156 g/mL (77 °F / 25 °C)

Method: lit.

Solubility(ies)

Water solubility : 1.297 g/l soluble (77 °F / 25 °C)

Partition coefficient: n-

octanol/water

: log Pow: 1.98 - 2.28

Method: (calculated) Bioaccumulation is not expected.

Autoignition temperature $: 1035 \, ^{\circ}\text{F} \, / \, 557 \, ^{\circ}\text{C}$

Decomposition temperature

: No data available

Viscosity

Viscosity, dynamic : No data available

Viscosity, kinematic : 0.757 mm2/s (68 °F / 20 °C)

0.691 mm2/s (104 °F / 40 °C)

0.551 mm2/s (122 °F / 50 °C)

Flow time : No data available

Explosive properties : Not classified as explosive.

Oxidizing properties : none

Surface tension : 0.03 N/m, 68 °F / 20 °C

Molecular weight : 112.99 g/mol

Particle characteristics

Particle size : No data available

SECTION 10. STABILITY AND REACTIVITY

Reactivity : Vapours may form explosive mixture with air.

Chemical stability : The product is chemically stable under standard

ambient conditions (room temperature) .

Possibility of hazardous

reactions

: Violent reactions possible with:

Strong oxidizing agents

Conditions to avoid : Warming.

Incompatible materials : No data available

products

Hazardous decomposition : In the event of fire: see section 5

SECTION 11. TOXICOLOGICAL INFORMATION

11.1 Information on toxicological effects

Acute toxicity

LD50 Oral - Rat - 1,947 mg/kg

Remarks: (RTECS)

LC50 Inhalation - Rat - male and female - 4 h - 9.4 mg/l - vapour

Remarks: (ECHA)

LD50 Dermal - Rabbit - male - 10,100 mg/kg

Remarks: (ECHA)

Skin corrosion/irritation

Skin - Rabbit

Result: slight irritation - 4 h (OECD Test Guideline 404)

Serious eye damage/eye irritation

Eyes - Chicken eye Result: No eye irritation (OECD Test Guideline 438)

Respiratory or skin sensitization

Local lymph node assay (LLNA) - Mouse



Result: negative

(OECD Test Guideline 429)

Germ cell mutagenicity

Test Type: Ames test

Test system: Escherichia coli/Salmonella typhimurium Metabolic activation: with and without metabolic activation

Method: OECD Test Guideline 471

Result: negative

Test Type: In vivo micronucleus test

Species: Mouse

Cell type: Red blood cells (erythrocytes)

Application Route: Oral Method: OPPTS 870.5395

Result: negative

Test Type: dominant lethal test

Species: Rat

Application Route: Oral

Result: negative Remarks: (ECHA)

Carcinogenicity

Presumed to have carcinogenic potential for humans

IARC: 1 - Group 1: Carcinogenic to humans (1,2-Dichloropropane)

NTP: No component of this product present at levels greater than or equal to 0.1% is

identified as a known or anticipated carcinogen by NTP.

OSHA: No component of this product present at levels greater than or equal to 0.1% is

on OSHA's list of regulated carcinogens.

Reproductive toxicity

No data available

Specific target organ toxicity - single exposure

No data available

Specific target organ toxicity - repeated exposure

No data available

Aspiration hazard

No data available

11.2 Additional Information

Repeated dose toxicity - Rat - male and female - Gavage - 103 Weeks - No observed adverse effect level - 62 - 125 mg/kg - Lowest observed adverse effect level - 125 - 250 mg/kg

Remarks: (ECHA)

RTECS: TX9625000

Sigma-Aldrich - 82270

Millipore Sigma To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

Blood -

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Components:

1,2-Dichloropropane:

Toxicity to fish : LC50 (Pimephales promelas (fathead minnow)): 140

mq/l

Exposure time: 96 h

Test Type: flow-through test Analytical monitoring: yes

Method: US-EPA

Toxicity to daphnia and

other aquatic invertebrates

: EC50 (Daphnia magna (Water flea)): 2.7 mg/l

End point: mortality Exposure time: 48 h

Test Type: semi-static test Analytical monitoring: yes

Method: OECD Test Guideline 202

GLP: yes

Toxicity to algae/aquatic

plants

: NOEC (Pseudokirchneriella subcapitata): 7.95 mg/l

End point: Growth inhibition

Exposure time: 72 h Test Type: static test Analytical monitoring: yes

Method: OECD Test Guideline 201

GLP: yes

Toxicity to fish (Chronic

toxicity)

: NOEC (Pimephales promelas (fathead minnow)): 6 -

11 mg/l

Exposure time: 28 Days Analytical monitoring: yes

Method: US-EPA

Toxicity to daphnia and

other aquatic

invertebrates (Chronic

toxicity)

: NOEC (Daphnia magna (Water flea)): 8.3 mg/l

Exposure time: 21 d Analytical monitoring: yes

Method: US-EPA

GLP: yes

Persistence and degradability

Components:

1,2-Dichloropropane:



Biodegradability : aerobic

Inoculum: activated sludge Concentration: 5.3 mg/l

Result: Not readily biodegradable.

Biodegradation: 11.7 % Exposure time: 28 d

Method: OECD Test Guideline 301D

GLP: yes

Bioaccumulative potential

Components:

1,2-Dichloropropane:

Bioaccumulation : Species: Cyprinus carpio (Carp)

Bioconcentration factor (BCF): 0.5 - 7

Exposure time: 42 d

Method: OECD Test Guideline 305C

Partition coefficient: n-

octanol/water

: log Pow: 1.98 - 2.28 Method: (calculated)

Remarks: Bioaccumulation is not expected.

Mobility in soil

No data available

Other adverse effects

Product:

Ozone-Depletion Potential: Regulation: 40 CFR Protection of Environment; Part

82 Protection of Stratospheric Ozone - CAA Section

602 Class I Substances

Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as

defined by the U.S. Clean Air Act Section 602 (40 CFR

82, Subpt. A, App.A + B).

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : Waste material must be disposed of in accordance

with the national and local regulations. Leave

chemicals in original containers. No mixing with other waste. Handle uncleaned containers like the product

itself.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA-DGR

Sigma-Aldrich - 82270

Millipore SigMa

Page 12 of 16

UN/ID No. : UN 1279

Proper shipping name : 1,2-Dichloropropane

Class : 3 Packing group : II

Labels : Class 3 - Flammable liquids

Packing instruction (cargo: 364

aircraft)

: 353

Packing instruction (passenger aircraft)

IMDG-Code

UN number : UN 1279

Proper shipping name : 1,2-DICHLOROPROPANE

Class : 3
Packing group : II
Labels : 3

EmS Code : F-E, S-D 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 1279

Proper shipping name : 1,2-Dichloropropane

Class : 3 Packing group : II

Labels : Class 3 - Flammable liquids

ERG Code : 130 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

CERCLA Reportable Quantity

Components	CAS-No.	Component RQ (lbs)	Calculated product RQ (lbs)
1,2-Dichloropropane	78-87-5	1000	1000

SARA 304 Extremely Hazardous Substances Reportable Quantity

This material does not contain any components with a section 304 EHS RQ.

Sigma-Aldrich - 82270

__ _ _ _

Page 13 of 16

SARA 302 Extremely Hazardous Substances Threshold Planning Quantity

This material does not contain any components with a section 302 EHS TPQ.

SARA 311/312

: Fire Hazard

Hazards

Acute Health Hazard Chronic Health Hazard

SARA 313

: The following components are subject to reporting levels established by SARA Title III, Section 313:

1,2- 78-87-5 >= 90 - <= 100 %

Dichloropropan

е

Clean Air Act

This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B). The following chemical(s) are listed as HAP under the U.S. Clean Air Act, Section 112 (40 CFR 61):

1,2-Dichloropropane

78-87-5

>= 90 - <= 100 %

This product does not contain any chemicals listed under the U.S. Clean Air Act Section 112(r) for Accidental Release Prevention (40 CFR 68.130, Subpart F).

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):

1,2-Dichloropropane

78-87-

>= 90 - <= 100 %

Clean Water Act

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

1,2-Dichloropropane

78-87-5

78-87-5

>= 90 - <= 100 %

This product does not contain any Hazardous Chemicals listed under the U.S. CleanWater Act, Section 311, Table 117.3.

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

1,2-Dichloropropane

>= 90 - <= 100 %

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

1,2-Dichloropropane 78-87-5

>= 90 - <= 100 %

US State Regulations

Massachusetts Right To Know

1,2-Dichloropropane

78-87-5

Pennsylvania Right To Know

1,2-Dichloropropane

78-87-5

Maine Chemicals of High Concern

Product does not contain any listed chemicals

Vermont Chemicals of High Concern

Product does not contain any listed chemicals

Washington Chemicals of High Concern

Sigma-Aldrich - 82270

Page 14 of 16

Product does not contain any listed chemicals

California Prop. 65

WARNING: This product can expose you to chemicals including 1,2-Dichloropropane, which is/are known to the State of California to cause cancer. For more information go to www.P65Warnings.ca.gov.

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

TSCA : All substances listed as active on the TSCA inventory

TSCA list

No substances are subject to a Significant New Use Rule.

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

1,2-Dichloropropane 78-87-5

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

ACGIH : USA. ACGIH Threshold Limit Values (TLV)

OSHA Z-1 : USA. Occupational Exposure Limits (OSHA) - Table Z-

1 Limits for Air Contaminants

ACGIH / TWA : 8-hour, time-weighted average OSHA Z-1 / TWA : 8-hour time weighted average

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 Harmonized 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 Organization; ISHL - Industrial Safety and Health Law (Japan); ISO -International Organisation for Standardization; 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 - Organization 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

Sigma-Aldrich - 82270 Page 15 of 16



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

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 2020 Sigma-Aldrich Co. LLC. License granted to make unlimited paper copies for internal use only.

Revision Date : 05/20/2025

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

