



SAFETY DATA SHEET (SDS)

according to Regulation (EC) No. 830/2015 amending 1907/2006

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

1.1	Product identifier:	Nitric Oxide Colorimetric Detection Kit Color Reagent A and Color Reagent B
1.1a	Other means of identification:	.
1.1b	Alternative product name(s)/ synonyms:	Nitric Oxide Colorimetric Assay Multi-component kit consisting of the following 8 mixtures: Nitrate Standard, Catalog #6628 Nitrite Standard, Catalog #6629 Nitric Oxide Assay Buffer, 1X, Catalog #6630 NADH Concentrate, 2X, Catalog #6631 Nitrate Reductase, Catalog #6632 Enzyme Stabilization Buffer, Catalog #6633 *Color Reagent A, Catalog #6634 *Color Reagent B, Catalog #6635 *Those components evaluated to require an SDS under Article 31 (part 1 and 3) of REACH and/or OSHA HAZCOM 2012 (GHS) regulations.
1.1c	Product number/Catalog #(s):	9136
1.1d	Internal identification:	Nitric Oxide Colorimetric Kit: Color Reagent A and Color Reagent B
1.2	Relevant identified uses of the substance or mixture and uses advised against:	For research use only. Not for use in diagnostic procedures.
1.2a	Brief description of what the substance or mixture is intended to do:	Colorimetric assay used to quantitatively measure nitrite and total nitric oxide in a variety of sample types.
1.3	Details of the supplier of the SDS:	.
1.3a	Name:	ImmunoChemistry Technologies, LLC (ICT)
1.3b	Address:	9401 James Avenue South, Suite 155
1.3c	City, State, Zip, Country	Bloomington, MN 55431-2500 USA
1.3d	Phone number:	1-800-829-3194 and 952-888-8788
1.3e	Fax number:	952-888-8988
1.3f	Website:	www.immunochemistry.com
1.3g	Email:	help@immunochemistry.com
1.3h	Contact person at ICT:	Quality Documentation Department
1.4	Emergency telephone number:	ICT: 1-800-829-3194 (USA & Canada) or 952-888-8788 world wide; ICT hours are 9 am-5 pm central time USA, Monday through Friday (excluding holidays). Chemtrec 24-hour access within USA and Canada: 1-800-424-9300 or +1 703-527-3887. Collect calls accepted.

Section 2: Hazards identification

2.1	Classification of the substance or mixture:	.
2.1a	Product is a:	Mixture.
2.1b	Classification according to (EC) No. 1272/2008 {CLP}:	Skin Irritation Category 2, H315 Causes skin irritation. Eye Irritation, Category 2, H319 Causes serious eye irritation. Specific Target Organ Toxicity (Single Exposure, Respiratory Tract Irritation) Category 3, H335 May cause respiratory irritation.
2.1c	The most important adverse physiochemical, human health, and environmental effects:	Refer to sections 9-12.
2.2	Label elements:	.
2.2a	GHS label elements, including precautionary statements:	.
2.2b	Contains:	Hydrochloric Acid $\leq$ 10%
2.2c	Labeling in accordance with (EC) No. 1272/2008:	.
2.2d	Hazard Pictograms (Hazard Symbols):	 GHS07 Exclamation mark.
2.2e	Signal word:	Warning
2.2f	Hazard statements:	H315 Causes skin irritation. H319 Causes serious eye irritation. H335 May cause respiratory irritation.

2.2g	Precautionary statements:	P261 Avoid breathing vapor. P280 Wear protective gloves/eye protection/face protection. P304 + P340 + P312 If inhaled: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or physician if you feel unwell.
2.2h	Supplementary precaution statements:	None.
2.3	Other hazards:	No additional information available.
2.3a	Does the chemical meet the criteria for PBT or vPvB?	Not applicable.
2.3b	Other hazards which do not result in classification:	No information available.

Section 3: Composition/information on ingredients

3.1	Substance:	Item is a mixture therefore Section 3.1 is not applicable; see Section 3.2.		
3.2	Mixture: The chemical identity and concentration or concentration ranges of all ingredients which are hazardous within the meaning of the GHS and are present above their cut-off levels:	Color Reagent A, Catalog #6634 Color Reagent B, Catalog #6635		
	3.2a Chemical identity:	Hydrochloric Acid (Color Reagent A and Color Reagent B)		
	3.2b Common name, synonyms, etc.:	HCl		
	3.2c CAS number and other unique identifiers:	3.2d EC number:	3.2e % Concentration:	3.2f Classification according to (EC) No. 1272/2008 [CLP]:
	CAS: 7647-01-0 Index: 017-002-01-X	231-595-7	5-10%	Skin Corr. 1B, H314 Causes severe skin burns and eye damage. Eye Dam. 1, H318 Causes serious eye damage. STOT SE 3, H335 Specific Target Organ Toxicity Single Exposure (Respiratory tract irritation).
3.2u	Other information on the mixture:	Additional components of the kit are non-hazardous or the specific chemical identity and/or exact percentage (concentration) of composition have been withheld as a trade secret.		

Section 4: First aid measures

4.1	Description of first aid measures:	If exposed or concerned, get medical attention/advice. Show this safety data sheet to the doctor in attendance. Wash contaminated clothing before re-use. Never give anything to an unconscious person.
4.1a	Inhalation:	Remove to fresh air and keep at rest in a comfortable position for breathing.
4.1b	Skin contact:	Remove affected clothing and wash all exposed skin with water for at least 15 minutes.
4.1c	Eye contact:	Immediately flush with plenty of water for at least 15 minutes. Remove contact lenses if present and easy to do so. Continue rinsing.
4.1d	Ingestion:	Rinse mouth thoroughly. Do not induce vomiting without advice from poison control center or medical professional. Get medical attention if you feel unwell.
4.2	Most important symptoms and effects, both acute and delayed:	.
4.2a	Inhalation:	May cause respiratory irritation.
4.2b	Skin contact:	Causes skin irritation.
4.2c	Eye contact:	Causes severe eye irritation.
4.2d	Ingestion:	No specific information.
4.3	Indication of any immediate medical attention and special treatment needed:	No additional information available.
4.3a	Notes to physician/first responder:	Treat symptomatically.

Section 5: Firefighting measures

5.1	Extinguishing media:	Use fire-extinguishing media appropriate for surrounding materials.
5.1a	Suitable extinguishing media:	Foam. Carbon dioxide. Dry powder. Water spray. Sand.
5.1b	Unsuitable extinguishing media:	None known.
5.2	Special hazards arising from the substance or mixture:	No special hazards. Treat in accordance with surrounding fire.
5.2a	Hazardous combustion products:	Thermal decomposition may liberate toxic gases or fumes.
5.2b	Unusual fire & explosion hazards:	No unusual fire or explosion hazards noted.
5.2c	Protective measures in fire:	Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus and protective suit (see section 8).
5.3	Advice for firefighters:	.
5.3a	Special firefighting procedures:	Use water spray or fog for cooling exposed containers. Exercise caution when fighting any chemical fire. Do not dispose of fire-fighting water in the environment.

5.3b	Special protective equipment and precautions for firefighters:	Do not enter fire area without proper protective equipment, including respiratory protection. Wear self-contained breathing apparatus and protective suit (see section 8).
Section 6: Accidental release measures		
6.1	Personal precautions, protective equipment, and emergency procedures:	.
6.1a	General release measures:	Evacuate area. Ventilate area. Keep upwind. See section 8.
6.1b	Advice for non-emergency personnel; personal precautions, protective equipment and emergency procedures:	Wear protective equipment as described in section 8. Evacuate unnecessary personnel.
6.1c	Advice for emergency responders; personal precautions, protective equipment and emergency procedures:	Wear suitable protective clothing, gloves and eye or face protection. Approved supplied-air respirator, in case of emergency.
6.2	Environmental precautions:	Prevent entry to sewers and public waters. Notify authorities if liquid enters sewers or public waters. Avoid release to the environment.
6.3	Methods and materials for containment and clean up:	Contain any spills with dikes or absorbents to prevent migration and entry into sewers or streams. Large spills may be neutralized with sodium carbonate, sodium bicarbonate, or sodium hydroxide. Place in a suitable container for disposal in accordance with the waste regulations (see section 13). Wash spill area thoroughly with plenty of soap and water.
6.4	Reference to other sections:	Refer to sections 8 and 13 for additional information.
Section 7: Handling and storage		
7.1	Precautions for safe handling:	Do not handle until all safety precautions have been read and understood. Avoid creation of aerosol/mist. Avoid inhalation of vapors/mist. Prevent contact with skin and eyes. Use appropriate personal protection equipment (PPE). Thoroughly wash hands and contaminated areas with water and soap before leaving the work site. Keep away from sources of ignition.
7.1a	Prevent handling of incompatible substances or mixtures:	Do not store near incompatible materials (see section 10).
7.1b	Advice on general occupational hygiene:	Do not eat, drink, or smoke in work areas. Wash hands after use. Remove contaminated clothing and protective equipment before entering eating areas. Good personal hygiene is necessary. Follow good laboratory hygiene and safety practices.
7.2	Conditions for safe storage, including any incompatibilities:	Store in cool place. Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Avoid spills and release into the environment; keep away from watercourses.
7.3	Specific end use(s):	For research use only. Not for use in diagnostic procedures.
Section 8: Exposure controls/personal protection		
8.1	Control parameters:	.
8.1a	Occupational exposure limits, such as chemical identity, standard, TWA-8 hours (time weighted average), STEL-15 minutes (short term exposure limit), etc.: WEL = Workplace Exposure Limit. Sk = can be absorbed through skin.	Hydrochloric acid (in Color Reagent A and Color Reagent B) EH40 2005 UK Workplace Exposure Limits (12-2011) for aerosol mists: STEL: 8 mg/m³ 15 minutes STEL: 5 ppm 15 minutes TWA: 2 mg/m³ 8 hours TWA: 1 ppm 8 hours USA ACGIH Threshold Limit Values (03-2015) C: 2 ppm USA NIOSH Recommended Exposure Limits (10-2013) CEIL: 5 ppm CEIL: 7 mg/m³ USA OSHA Permissible Exposure Limits (02-2013) CEIL: 5 ppm CEIL: 7 mg/m³
8.1b	Appropriate engineering controls:	Ensure adequate ventilation, especially in confined areas.
8.1c	Individual protection measures, such as personal protective equipment:	Wear suitable protective gloves. Wear protective goggles. Wear lab coat with full coverage clothing.

8.1d	Safety symbols:	
8.2	Exposure controls:	.
8.2a	Process conditions:	Provide eyewash station.
8.2b	Engineering controls:	Local exhaust ventilation is recommended for providing adequate ventilation. Ensure that eyewash stations and safety showers are proximal to the workstation location.
8.2c	Ventilation controls:	Provide adequate ventilation.
8.2d	Reference to other sections:	Refer to section 5 for additional information.
8.2e	Eye/face protection:	Chemical goggles or safety glasses.
8.2f	Skin protection:	Wear suitable protective clothing. Wear long sleeves.
8.2g	Hand protection:	Use suitable protective gloves if risk of skin contact.
8.2h	Respiratory equipment:	Respiratory protection is not required.
8.2i	Other protection:	Wear appropriate clothing to prevent any possibility of skin contact.
8.2j	Hygiene measures:	DO NOT SMOKE IN WORK AREA! Wash at the end of each work shift and before eating, smoking, and using the toilet. Promptly remove any clothing that becomes contaminated. Use appropriate skin cream to prevent drying of skin. When using do not eat, drink, or smoke. Wash promptly with soap and water if skin becomes contaminated.
8.2k	Thermal hazards:	None known.
8.2l	Environmental exposure controls:	Do not let product enter drains.

Section 9: Physical and chemical properties

9.1	Information on basic physical and chemical properties:	Hydrochloric Acid (5-10% w/w in Color Reagent A and Color Reagent B)
9.1a	Appearance (physical state, color, etc.):	Clear, colorless liquid
9.1b	Odor:	Pungent
9.1c	Odor threshold:	No data available.
9.1d	pH:	0.1
9.1e	Melting point/freezing point (°C):	No data available.
9.1f	Initial boiling point and boiling range:	No data available.
9.1g	Flash point (°C):	No data available.
9.1h	Evaporation rate:	No data available.
9.1i	Flammability (solid, gas):	No data available.
9.1j	Upper/lower flammability or explosive limits:	No data available.
9.1k	Vapor pressure:	No data available.
9.1l	Vapor density (Air =1):	No data available.
9.1m	Relative density:	No data available.
9.1n	Solubility(ies):	No data available.
9.1o	Partition coefficient (N-octanol/water):	No data available.
9.1p	Auto-ignition temperature (°C):	No data available.
9.1q	Decomposition temperature (°C):	No data available.
9.1r	Viscosity:	No data available.
9.1s	Explosive properties:	No data available.
9.1t	Oxidizing properties:	No data available.
9.2	Other information:	No additional information available.
9.2a	Other physical or chemical parameters:	No additional information available.

Section 10: Stability and reactivity

10.1	Reactivity:	Hydrochloric Acid: Thermal decomposition generates corrosive vapors.
10.2	Chemical stability:	Stable under recommended handling and storage conditions (see section 7).
10.3	Possibility of hazardous reactions:	Hydrochloric Acid: Reacts violently with some bases; release of heat.
10.4	Conditions to avoid:	Avoid exposure to high temperatures or direct sunlight.
10.5	Incompatible materials:	Hydrochloric Acid: Materials such as cyanides, sulfites, and formaldehyde.
10.6	Hazardous decomposition products:	In event of fire: see section 5.

Section 11: Toxicological information

11.1	Information on toxicological effects:	.
11.1a	Name:	Hydrochloric Acid, 37% w/w (5-10% w/w in Color Reagent A and Color Reagent B)
11.1b	Acute toxicity:	Not classified.

11.1c	Skin corrosion/irritation:	Hydrochloric Acid: (Route / Species / Conclusion / Exposure / Dose) Eye / Rabbit / Mild Irritant / 0.5 minutes exposure / 5 mg Skin / Human / Mild Irritant / 24 hours exposure / 4% solution Causes skin irritation.
11.1d	Serious eye damage/irritation:	Causes serious eye irritation.
11.1e	Respiratory or skin sensitization:	Not classified.
11.1f	Germ cell mutagenicity:	Not classified.
11.1g	Carcinogenicity:	Not classified.
11.1h	Reproductive toxicity:	Not classified.
11.1i	STOT-single exposure:	May cause respiratory irritation.
11.1j	STOT-repeated exposure:	Not classified.
11.1k	Aspiration hazard:	Not classified.
11.1l	Information on the likely routes of exposure (inhalation, ingestion, skin and eye contact):	.
11.1m	Ingestion:	Harmful if swallowed.
11.1n	Inhalation:	May cause respiratory irritation.
11.1o	Skin contact:	Causes skin irritation.
11.1p	Eye contact:	Causes serious eye irritation.
11.1q	Symptoms related to the physical, chemical and toxicological characteristics:	Adverse symptoms may include: pain or irritation, watering, redness, coughing and respiratory tract irritation as indicated by the hazards.
11.1r	Delayed and immediate effects as well as chronic effects from short and long term exposure:	Not determined.
11.1s	Numerical measures of toxicity (such as acute toxicity estimates):	Not determined.
11.1t	Interactive effects:	Not determined.
11.1u	Absence of specific data:	Not applicable.
11.1v	Mixtures:	Multi-component kit consisting of 8 mixtures.
11.1w	Mixture vs. substance information:	See section 3 for any substances in the mixture.
11.1x	Classification by National Toxicity Program (NTP):	Not classified.
11.1y	Classification by International Agency for Research on Cancer (IARC):	IARC 3.
11.1z	Classification by OSHA 13:	None.
11.1ab	Other information:	None.

Section 12: Ecological information

12.1	Toxicity:	.
12.1a	Name:	Hydrochloric Acid (5-10% w/w in Color Reagent A and Color Reagent B).
12.1b	Ecotoxicity (aquatic and terrestrial, where available):	No information available.
12.2	Persistence and degradability:	No information available.
12.3	Bioaccumulative potential:	No information available.
12.4	Mobility in soil:	No information available.
12.5	Results of PBT and vPvB assessment:	No information available.
12.6	Other adverse effects:	No data available.

Section 13: Disposal considerations

13.1	Waste treatment methods:	When handling waste, consideration should be made to the safety precautions applying to handling of the product.
13.1a	Description of waste residues and information on their safe handling and methods of disposal, including the disposal of any contaminated packaging:	Obtain the consent of pollution control authorities before discharging to wastewater treatment plants. Observe all federal, state and local laws when considering most appropriate disposal method. Contact a licensed professional waste disposal service to dispose of this material. Dispose in a safe manner in accordance with local/national regulations. Do not allow the product to be released into the environment.

Section 14: Transport information

14.1	UN number:	1789
14.2	UN proper shipping name:	Hydrochloric acid
14.3	Transport hazard class(es):	Class 8 - Corrosive material 49 CFR 173.136
14.4	Packing group:	III
14.5	Environmental hazards:	.
14.5a	Is it environmentally dangerous according to UN Model Regulations (IMDG Code, ADR, RID, and ADN)?:	No
14.5b	Is it a marine pollutant according to the IMDG code?:	No.
14.6	Special precautions for user:	None.
14.7	Transport in bulk according to Annex II of MARPOL 73/78 and the IBC code:	Not applicable.

14.7a	Other information:	None.
14.7b	Classification by DOT or IATA (for other modes of transport, contact supplier).	Class 8
Section 15: Regulatory information		
15.1	Safety, health and environmental regulations/legislation specific for the substance or mixture:	.
15.1a	Regional safety, health and environmental regulations specific for the product in question:	.
15.1b	USA SARA Components (such as 302/311/313):	Immediate (acute) health hazard.
15.1c	USA Massachusetts Right to Know:	Listed. Hydrochloric Acid.
15.1d	USA Pennsylvania Right to Know:	Listed. Hydrochloric Acid.
15.1e	USA New Jersey Right to Know:	Listed. Hydrochloric Acid.
15.1f	USA California Prop. 65 Components:	Not listed.
15.1g	EU Regulation 1907/2006 {REACH}:	.
15.1h	Annex XIV substances subject to authorization:	Not listed.
15.1i	Substances of very high concern:	Not listed.
15.1j	Approved code of practice:	Classification and labeling of substances and preparations dangerous for supply. Safety data sheets for substances and preparations.
15.1k	Guidance notes:	Workplace exposure limits EH40.
15.1l	EU legislation references:	(EC) No. 1272/2008 on the classification, labelling and packaging of substances and mixtures {CLP Regulation}. EC 830/2015. Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.
15.2	Chemical safety assessment:	Not required.
15.2a	Other regulatory information:	None.
Section 16: Other information		
16.1	Other information:	.
16.1a	Date of revision:	11-Dec-15
16.1b	SDS number and revision:	F18-9136-11-A
16.1c	Supersedes SDS number and revision:	None.
16.1d	Changes made to the previous version of the SDS:	New document.
16.1e	Key/legend to abbreviations and acronyms used in the SDS:	ACGIH American Conference of Governmental Industrial Hygienists. ADN European Provisions concerning the International Carriage of Dangerous Goods by Inland Waterway. ADR The European Agreement concerning the International Carriage of Dangerous Goods by Road. CAS Chemical Abstracts Service. CLP Classification, Labelling and Packaging. EC European Commission. EC50 Half maximal effective concentration. EH40 Resource containing the list of workplace exposure limits for use with the Control of Substances Hazardous to Health Regulations. EINECS European Inventory of Existing Commercial chemical Substances. ELINCS European List of Notified Chemical Substances. EU European Union. GHS Globally Harmonized System of Classification and Labelling of Chemicals. H Statement GHS Hazard statement. IATA International Air Transport Association. IBC Intermediate Bulk Container. IC50 Half maximal inhibitory concentration. IMDG International Maritime Dangerous Goods. LC50 Median lethal concentration. LD50 Median lethal dose. LogPow logarithm of the octanol/water partition coefficient. MARPOL 73/78 International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. OEL Occupational Exposure Limit. OSHA Occupational Safety and Health Administration (USA). PBT Persistent, Bioaccumulative, and Toxic. RID The Regulations concerning the International Carriage of Dangerous Goods by Rail.

		SARA Superfund Amendments and Reauthorization Act. SCBA Self-Contained Breathing Apparatus. SDS Safety Data Sheet. STOT Specific Target Organ Toxicity. STOT-RE Specific Target Organ Toxicity - Repeated Exposure. STOT-SE Specific Target Organ Toxicity - Single Exposure. UN United Nations. USA United States of America. vPvB very Persistent very Bioaccumulative.
16.1f	Full text of hazard statements and/or precautionary statements not written out in full elsewhere:	All statements were written out in full.
DISCLAIMER:		This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process. Such information is, to the best of the company's knowledge and belief, accurate and reliable as of the date indicated. However, no warranty guarantee or representation is made to its accuracy, reliability, or completeness. It is the user's responsibility to satisfy himself as to the suitability of such information for his own particular use.
END OF SDS		