3050 Spruce Street, Saint Louis, MO 63103 USA Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

Certificate of Analysis

Product Name: Fetal Bovine Serum

Heat Inactivated, USA No, sterile-filtered, cell culture

Product Number: F9665

Batch Number: BCCD0893

Brand: Sigma

CAS Number:

Formula:

Formula Weight:

Expiration Date: FEB 2025 **Quality Release Date:** 01 APR 2020

TEST SPECIFICATION RESULT SOURCE NOT OF USA-ORIGIN BRAZIL

APPEARANCE CLEAR STRAW TO AMBER LIQUID CLEAR STRAW TO AMBER LIQUID

PH 7 - 8

OSMOLALITY 260 - 340 MOSM/KG 314 MOSM/KG

STERILITYPASSPASSPROTEIN CONTENT30 - 45 G/L41 G/LENDOTOXINS $\leq 10 \text{ EU/ML}$ < 0.4 EU/MLHAEMOGLOBIN $\leq 25 \text{ MG/100ML}$ 19 MG/MLMYCOPLASMANOT DETECTEDNOT DETECTED

MYCOPLASMANOT DETECTEDNOT DETECTEDVIRUS (BVD)TESTEDNOT DETECTEDVIRUS (IBR, PI3)NOT DETECTEDNOT DETECTED

CELL CULTURE TEST PASS PASS

CELL LINES REPORT CELL LINES USED MRC5, L929, C2C12, LLC-PK1, VERO,

SP2/O-AG14, MDCK

CLONING ASSAYPASSPASSALBUMINREPORT RESULT16.3 G/LALPHA GLOBULINSREPORT RESULT13.9 G/LBETA GLOBULINSREPORT RESULT6.7 G/L



3050 Spruce Street, Saint Louis, MO 63103 USA Email USA: techserv@sial.com Outside USA: eurtechserv@sial.com

Certificate of Analysis

GAMMA GLOBULINS

IGG

REPORT RESULT

3.7 G/L 206 MG/L

Dr. Reinhold Schwenninger

Quality Assurance Buchs, Switzerland

Sigma-Aldrich warrants that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Certificate of Analysis



Cat.no. 11934317001

Product RNA/DNA Stabil.-Reag.Blood/Bone Marrow

29.07.2015 Lot 10966700 Page 01 of 01

Parameter Unit Result

Appearance - yellowish solution Performance - corresponds

This lot meets our specification.

Expiry date: Okt 2016 Roche Diagnostics GmbH, Mannheim

> sign.: Markus Pajatsch Quality Manager

This certificate is a computer printout and has therefore not been signed by hand.



3050 Spruce Street, Saint Louis, MO 63103, USA

Website: www.sigmaaldrich.com
Email USA: techserv@sial.com
Outside USA: eurtechserv@sial.com

Certificate of Analysis

HOTHER HOTHER

Tris-EDTA buffer solution - 100X concentrate for Northern and Southern blotting

Product Number: T9285

Batch Number: SLCG0161

Brand: SIGMA

Product Name:

Quality Release Date: 26 MAY 2020 Recommended Retest Date: MAY 2023

Test	Specification	Result
Appearance (Color)	Colorless	Colorless
Appearance (Form)	Liquid	Liquid
Appearance (Turbidity)	Clear	Clear
рН	7.8 - 8.2	8.0
1x, H2O		
DNase, Exonuclease Detection	None Detected	None Detected
RNase Detection	None Detected	None Detected
Conductivity	> 30000	31110
Measured in umhos		
Standard Plate Count	< 10 CFU/ml	1 CFU/ml

Brian Dulle, Supervisor Quality Assurance St. Louis, Missouri US

Sigma-Aldrich warrants, that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current Specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.

Version Number: 1 Page 1 of 1

Certificate of Analysis

Product Name: Hydrochloric acid

puriss. p.a., ACS reagent, reag. ISO, reag. Ph. Eur., fuming,

>= 37 %, APHA <= 10

Product Number: 30721
Batch Number: STBJ7931
Brand: Sigma-Aldrich
CAS Number: 7647-01-0

Formula: HCl Formula Weight: 36.46

Quality Release Date: 29 MAY 2020 **Recommended Retest Date:** NOV 2023

TEST	SPECIFICATION	RESULT
APPEARANCE (COLOR)	COMPLYING	COLORLESS
APPEARANCE (FORM)	COMPLYING	LIQUID
COLOR (IN APHA)	≤ 10 APHA	< 10
ASSAY	≥ 37 %	37 %
DENSITY D20/4	≥ 1.18 G/ML	≥ 1.18 G/ML
RESIDUE ON IGNITION	≤ 0.0005 %	< 0.0002 %
RESIDUE (EVAPORATION)	≤ 0.005 %	< 0.005 %
FREE CHLORINE	≤ 0.00005 %	< 0.00005 %
ALUMINIUM	≤ 0.000005 %	< 0.000005 %
ARSEN	≤ 0.000001 %	< 0.000001 %
BARIUM	≤ 0.000002 %	< 0.000002 %
BERYLLIUM	≤ 0.000002 %	< 0.000002 %
BISMUTH	≤ 0.00001 %	< 0.00001 %
CALCIUM	≤ 0.00005 %	< 0.00005 %
CADMIUM	≤ 0.000001 %	< 0.000001 %
COBALT	≤ 0.000001 %	< 0.000001 %
CHROMIUM	≤ 0.000002 %	< 0.000002 %
COPPER	≤ 0.000002 %	< 0.000002 %
IRON	≤ 0.00002 %	< 0.00002 %
GERMANIUM	≤ 0.000005 %	< 0.000005 %
POTASSIUM	≤ 0.00001 %	< 0.00001 %
LITHIUM	≤ 0.000001 %	< 0.000001 %
MAGNESIUM	≤ 0.00001 %	< 0.00001 %
MANGANESE	≤ 0.000001 %	< 0.000001 %

Certificate of Analysis

MOLYBDENUM	≤ 0.000002 %	< 0.000002 %
SODIUM	≤ 0.00005 %	< 0.00005 %
NICKEL	≤ 0.000002 %	< 0.000002 %
LEAD	≤ 0.000002 %	< 0.000002 %
STRONTIUM	≤ 0.000001 %	< 0.000001 %
TITANIUM	≤ 0.00001 %	< 0.00001 %
THALLIUM	≤ 0.000005 %	< 0.000005 %
VANADIUM	≤ 0.000001 %	< 0.000001 %
ZINC	≤ 0.000005 %	< 0.000005 %
ZIRCONIUM	≤ 0.00001 %	< 0.00001 %
Heavy metals (by ICP-OES)	≤ 0.0001 % (AS PB)	< 0.0001 %
AMMONIUM (NH4+)	≤ 0.0001 %	< 0.0001 %
BROMIDE (BR)	≤ 0.005 %	< 0.005 %
PHOSPHATE (PO4)	≤ 0.00005 %	< 0.00005 %
SULFATE (SO4)	≤ 0.0001 %	< 0.0001 %
SULFITE (SO3)	≤ 0.0001 %	< 0.0001 %

Claudia Mayer

Manager Quality Control

Vardia Mayor

Steinheim, Germany

Sigma-Aldrich warrants that at the time of the quality release or subsequent retest date this product conformed to the information contained in this publication. The current specification sheet may be available at Sigma-Aldrich.com. For further inquiries, please contact Technical Service. Purchaser must determine the suitability of the product for its particular use. See reverse side of invoice or packing slip for additional terms and conditions of sale.



THE INTERNATIONAL CERTIFICATION NETWORK

CERTIFICATE

DQS Holding GmbH has issued an IQNet recognized certificate that the organization

Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

with the organizational units/sites as listed in the annex

has implemented and maintains a Quality Management System.

Scope:

Development, manufacture and distribution of basic chemicals, special chemical products and analytical systems.

Through an audit, documented in a report, it was verified that the management system fulfills the requirements of the following standard:

ISO 9001: 2015

Issued on: 2019-12-13 Expires on: 2020-11-23

This attestation is directly linked to the IQNet Partner's original certificate and shall not be used as a stand-alone document.

Registration number: DE-005356 QM15

Alex Stoichitoiu
President of IQNet

Michael Drechsel Managing Director of DQS Holding GmbH



IQNet Partners*:

AENOR Spain AFNOR Certification France APCER Portugal CCC Cyprus CISQ Italy
CQC China CQM China CQS Czech Republic Cro Cert Croatia DQS Holding GmbH Germany FCAV Brazil
FONDONORMA Venezuela ICONTEC Colombia Inspecta Sertificiniti Oy Finland INTECO Costa Rica
IRAM Argentina JQA Japan KFQ Korea MIRTEC Greece MSZT Hungary Nemko AS Norway NSAI Ireland
NYCE-SIGE México PCBC Poland Quality Austria Austria RR Russia SII Israel SIQ Slovenia
SIRIM QAS International Malaysia SQS Switzerland SRAC Romania TEST St Petersburg Russia TSE Turkey YUQS Serbia
IQNet is represented in the USA by: AFNOR Certification, CISQ, DQS Holding GmbH and NSAI Inc.

^{*} The list of IQNet partners is valid at the time of issue of this certificate. Updated information is available under www.iqnet-certification.com



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

005356 Merck KGaA Frankfurter Straße 250 64293 Darmstadt

Including: Real Estate GmbH

Merck Performance Materials GmbH

With regional offices at: Roesslerstrasse 96 64293 Darmstadt

Waldstrasse 3 64331 Weiterstadt

519160 Merck S. A. Tronador 4890 C1430DNN Buenos Aires Argentina

And regional warehouse at Marconi 877 – B1812CDE Carlos Spegazzini Pcia. de Buenos Aires Argentina

496580 Merck Pty. Limited 885 Mountain Highway Bayswater VIC 3153 Australia Development, manufacture and distribution of basic chemicals, special chemical products and analytical systems.

Import, warehousing, trading and distribution of chemical products, lab equipment and IVD's.

Distribution of chemicals, laboratory equipment and consumables, filtration, separation, Life Science and purification products.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

531364 Sigma-Aldrich Handels GmbH Marchettigasse 7 / 2 1060 Vienna Austria

Sales, customer and technical service for laboratory and industrial chemicals.

531355 Sigma-Aldrich BVBA SPRL Brusselsesteenweg 288 3090 Overijse Belgium

Sales, customer and technical service for laboratory and industrial chemicals.

527487 Merck Bulgaria EAD 48 Sitnyakovo Blvd. 1505 Sofia Bulgaria

Sales and distribution of chemicals and reagents, raw materials, microbiological products, mixtures for analysis of foods, water and environment, chromatographic consumables, products used in laboratories and laboratory equipment. Service and maintenance. Training.

541664 Merck S.A. (Brazil) Alameda Xingu, 350, 5° andar - Alphaville Barueri 06455-030 Brazil

Administrative process of importation and local purchase of finished products, equipment and raw materials for industries: pharmaceutical, chemical, food, beverages and research, development and analysis laboratory.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

541662 Sigma Aldrich Brazil LTDA Alameda Xingu, 350, 5° andar - Alphaville Barueri 06455-030 Brazil

Administrative process of importation and local purchase of finished products, equipment and raw materials for industries: pharmaceutical, chemical, food, beverages and research, development and analysis laboratory.

541661 Merck S.A. (Brazil) Rua Torre Eiffel, 100 Cotia - SP 06705-481 Brazil

Importation, receiving, storage and distribution of finished products, equipment and raw materials for industries: pharmaceutical, chemical, food, beverages and research, development and analysis laboratory.

527768 Sigma Aldrich Brazil LTDA Rua Torre Eiffel, 100 Cotia - SP 06705-481 Brazil

Impportation, receiving, storage and distribution of finished products, equipment and raw materials for industries: pharmaceutical, chemical, food, beverages and research, development and analysis laboratory.

527756 Sigma-Aldrich Canada Co. 2149 Winston Park Drive Oakville L6H 6J8 Canada

Sales and distribution of biochemical and organic chemical products and kits.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

450241 Merck & Cie Weisshausmatte 6460 Altdorf Switzerland Manufacture and distribution of active pharmaceutical ingredients, chromatography resins and other Life Science products.

527490 Sigma-Aldrich Chemie GmbH Industriestrasse 25 9470 Buchs SG Switzerland

Development, manufacturing and distribution of reagents and chemicals for research, development, production and analytical purposes.

530377 Sigma-Aldrich Production GmbH Industriestrasse 25 9470 Buchs SG Switzerland

Development, manufacturing and distribution of reagents and chemicals for research, development, production and analytical purposes.

496582 Merck S.A. Francisco de Paula Taforó 1981 - Ñuñoa 7780349 Santiago Chile

Distribution of chemical products and pharmaceutical ingredients, instruments and laboratory equipment.

Service of installation, maintenance, repair and technical assist of instruments and equipment of laboratory.

527755
Sigma-Aldrich (Wuxi) Life Science & Technology Co., Ltd.
99 Ximei Road
Wuxi New District
Wuxi City 214028
P. R. China

Packaging of bio-chemical reagent products (non-medicinal) and manufacture of disposal bio processing bags.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

519308 Merck Limited FLAT/RM 601-2, Li Po Chun Chambers, 189 Des Voeux Road Central Hongkong P. R. China

Sales, supply and innovation of Life Science chemical products and solutions.

533161

Merck Life Sience (Shanghai) Co. Ltd #10 Building,509 Renqing Road Pudong District 201201 Shanghai P. R. China Distribution and warehousing of Life Science chemicals.

507106

Merck Life Sience (Shanghai) Co. Ltd. (Sales Office)
Room 908, Tomson-Trade Building,
No.1 Jirong Rd,
Waigaoqiao Free Trade Zone
201203 Shanghai
P. R. China

Sales Office: Sales and supply of Life Science chemicals, materials, reagent, equipment and consumable.

China BioReliance Validation Services Lab: Provision of laboratory testing and validation service for filtration products and Single Use Assemblies.

System and Solutions Operations China: Design and provision of filtration and ultrafiltration products, system and related solution. Providing Consultancy Service in the areas of quality, regulatory affairs, audit management, training and validation.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

514696

Merck Display Materials (Shanghai) Ltd. First Floor and Second Floor Area B of 14th Building East Side and 15th building, No. 211 Qinqiao Road, Free Trade Zone 201206 Shanghai P. R. China

Design, development, manufacture and distribution of liquid crystal materials; distribution of other chemical materials.

521709

Merck Electronic Materials (Suzhou) Ltd. Shanghai sales office First Floor and Second Floor Area B of 14th Building East Side and 15th building, No. 211 Qinqiao Road, 201206 Shanghai P. R. China Sale of photoresist products, edge bead rinse thinner and remover used for the electronic industry. Distribution of ancillary chemicals and additives used for electronic industry, including anti-reflective coating, developer and adhesion prompter.

518298

Merck Electronic Materials (Suzhou) Ltd. No. 70, Longpu Road, Industrial Park 215021 Suzhou City, Jiangsu Province P. R. China Production and sale of photoresist products, edge bead rinse thinner and remover used for electronic industry.

Distribution of ancillary chemicals and additives used for electronic industry, including anti-reflective coating, developer and adhesion promoter.

542618

Merck Life Science Technologies (Nantong) Co., Ltd No.39 Jianggang Road Nantong Economic & Technological Development Area 226017 Jiangsu P.R. China Manufacturing of cell culture media, ready-touse products and inorganic salts.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location	Scope
531357 Sigma-Aldrich spol. s r.o. Na Hřebenech II 1718/10 140 00 Praha 4 Czech Republic	Sales, customer and technical service for laboratory and industrial chemicals.
092560 Merck spol. s.r.o. Na Hrebenech II. 1718 / 10 140 00 Praha 4 Czech Republic	Marketing, sales and distribution (including after sales service) of laboratory chemicals, instruments, equipment and consumables; chemicals for production; analytical systems.
273047 Biochrom GmbH Rahel-Hirsch-Str. 10 10557 Berlin Germany	Sales, customer and technical service for cell culture products and sterile liquids
467000 Litec-LLL GmbH Siemensallee 1 Gebäude 67 17489 Greifswald Germany	Development and manufacture of phosphors.
527728 Sigma-Aldrich Biochemie GmbH Georg-Heyken-Strasse 14 21147 Hamburg Germany	Development, procurement, production, sales and distribution of reagents and chemicals for research, development, production and analytical purpose.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location	Scope
240237 Merck KGaA Mainzer Strasse 41 64579 Gernsheim Germany	Development, manufacture and sales of chemical products.
518299 Merck Performance Materials GmbH Rheingaustrasse 190 - 196 65203 Wiesbaden Germany	Design and development, production and supply of photoresist, liquid crystals and process chemicals for the electronic and printing industry.
505611 Merck Life Science GmbH Lilienthalstrasse 16	Development, manufacture and distribution of culture media and systems for microbiology.

531362 Sigma-Aldrich Chemie GmbH Eschenstrasse 5 82024 Taufkirchen Germany

69214 Eppelheim

Germany

Sales, customer and technical service for laboratory and industrial chemicals.

002955 Merck Schuchardt OHG Eduard-Buchner-Strasse 14 - 20 85662 Hohenbrunn Germany

Manufacture, sales and distribution of chemicals for widespread applications in Pharma, Cosmetics and Technical Industry.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

527503 Sigma-Adrich Chemie GmbH Riedstrasse 2 89555 Steinheim Germany

Incl. Sigma Aldrich Production GmbH Riedstrasse 2 89555 Steinheim

527729 Sigma-Aldrich Chemie GmbH Kappelweg 1 91625 Schnelldorf Germany

Storage, packaging and shipping of chemicals.

Development, procurement, production and distribution of reagents and chemicals for

research, development, production and

analytical purpose.

531349 Sigma-Aldrich Denmark ApS Vandtårnsvej 62A, 5. A 2860 Søborg Denmark

Sales, customer excellence for laboratory and industrial chemicals.

450321 Merck S.L.U. Polígono Industrial Merck 08100 Mollet del Valles (Barcelona) Spain

Manufacture and distribution of chemicals for regulated markets and special applications.

531363 Sigma-Aldrich Química S.L. Calle de Maria de Molina, 40 28006 Madrid Spain

Sales, customer and technical service for laboratory and industrial chemicals.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

531352 Sigma-Aldrich Finland OY Keilaranta 6 02150 Espoo Finland

Sales, customer excellence for laboratory and industrial chemicals.

527727 Sigma-Aldrich Chimie S.a.r.l. 80 Rue de Luzais 38297 St. Quentin-Fallavier France

Sales and distribution of reagents and chemicals for research, development and production.

518302 Merck Performance Materials SAS L'Usine de la Motte 1 Rue du Flottage 60350 Trosly Breuil

France

Design, manufacturing and distribution of colloidal silica.

492648
Millipore S.A.S.
39, Route Industrielle de la Hardt
67120 Molsheim
France

Design, development, production engineering, manufacturing and distribution of devices, media and equipment for fluid analysis and purification. Production engineering, manufacturing and distribution of water purification systems for laboratories. Deliver engineered systems and technical solutions. Validation and scientific support to users. Maintenance and repair for biomonitoring and process solution equipment. Technical and commercial support to customers.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

534721 Merck Chimie SAS 10 Avenue de Lattre de Tassigny 69330 Meyzieu France

Development, production and sale of polymer microspheres mainly used as solid supports in diagnostic kits and marketed under the brand estapor.

506585
Millipore S.A.S.
1, rue Jacques Monod
Rond-Point des Sangliers
78280 Guyancourt
France

Design, development of water purification systems for laboratories.

527501 Sigma-Aldrich Co. Ltd. Fancy Road Poole, Dorset BH12 4QH United Kingdom

Sales of reagents and chemicals for research, development, production and analytical purposes.

527761 Sigma-Aldrich Co. Ltd. Homefield Road Haverhill, Suffolk CB9 8QP United Kingdom

Manufacture of custom oligonucleotides. Sales and support of custom biomolecules and Life Science research products.

505626 Millipore (UK) Ltd. 3 Fleming Road Kirkton Campus Livingston EH54 7BN United Kingdom

Development, manufacture and sale of clinical diagnostic products derived from biological sources.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

527496 Sigma-Aldrich Co. Ltd. T/A SAFC Second Avenue Heatherhouse Industrial Estate Irvine KA12 8NB United Kingdom

Manufacture of cell culture related critical raw materials for the global health care industry.

527730 Sigma-Aldrich Co. Ltd. The Old Brickyard, New Road Gillingham, Dorset SP8 4XT United Kingdom

Procurement, sales and distribution of reagents and chemicals for research, development, production and analytical purposes.

501978 Merck A.E. Hellas 41-45 Kifissias ave. 15123 Maroussi / Attica Greece

Trade and distribution of pharmaceutical and chemical products and medical devices.

505613 Merck Kft. Október huszonharmadika utca 6 - 10 1117 Budapest Hungary

Distribution of laboratory and specialty chemicals and lab equipment. Servicing of distributed equipment.

531351 Sigma-Aldrich Kft. Október huszonharmadika utca 6 - 10 1117 Budapest Hungary

Sales, customer and technical service for laboratory and industrial chemicals.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

450286 P.T. Merck Tbk. Jl. TB. Simatupang no. 8 Pasar Rebo Jakarta 13760 Indonesia

Sales, Marketing and Distribution of Pharmaceutical Raw Material Products.

540290

PT Merck Chemicals and Life Sciences Jl. TB. Simatupang No. 8 Pasar Rebo Jakarta 13760 Indonesia Sales, marketing and distribution of Life Science and Performance Material products.

510831

Merck Life Science Private Limited Godrej One, 8th floor, Pirojshanagar, Eastern Express Highway, Vikhroli - East Mumbai, Vikhroli 400 079 India Development, manufacturing and marketing of microbiology products. Manufacturing and marketing of laboratory reagent. Marketing of laboratory products.

518300

Merck Performance Materials Pvt. Ltd. Khopoli Site Survey No 109, 110, 112 Savroli Village, Taluka Khalapur, Dist. Raigad Maharashtra 410 203 India Design, development, manufacturing, marketing and sales of silicon resins (polysilazanes and silazanes) and formulations.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

501956

Merck Life Science Private Limited 50 A & 51, 2nd Phase, Ring Road, Peenya Bangalore 560 058 India

And regional offices in New Delhi, Ahmedabad, Bangalore, Kolkata, Mumbai and Hyderabad Design, manufacture, assembly, testing and supply of filtration equipment and related products for biopharm process solutions, biomonitoring, lab water, ASP(Analytical Sample Preparation), and provision of laboratory testing and validation service for filtration and single use products.

530393

Sigma Aldrich Chemicals Private Limited # 12, Bommasandra Jigani Link Road Bangalore, Karnataka State 560100 India Development, manufacturing, sales and distribution of specialty and fine chemicals.

505619 Merck Millipore Ltd. Tullagreen Carrigtwohill T45 KD29 County Cork Ireland

Design and manufacture of filtration products for the pharmaceutical, food, beverage, electronic and analytical industries.

Manufacture of chromatography adsorbents, immobilized enzymes and other ligands for modification and purification of biomolecules.

527495 Sigma-Aldrich Ireland Ltd. Vale Road Arklow, County Wicklow Ireland

Procurement, sales and distribution of reagents and chemicals for research, development, production and analytical purposes.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

527758 Sigma-Aldrich Israel Ltd. 3 Plaut St., Park Rabin Rehovot 7670603 Israel

Development, manufacture, marketing, sales and distribution of biochemicals, organic chemicals and reagents for research, production and analytical purposes.

527759 Sigma-Aldrich Israel Ltd. 13-15 Kiryat Hamada St., Har Hotzvim Jerusalem 9777613 Israel

Development and manufacture of biochemicals, organic chemicals and reagents for research, development, production and analytical purposes.

531353 Sigma-Aldrich S.r.l. Via Monterosa 93 20149 Milano Italy

Sales, customer and technical service for laboratory and industrial chemicals.

518301 Merck Performance Materials Ltd. Shizuoka Site 3330 Chihama, Kakegawa-shi, Shizuoka 437-1412 Japan

Development and production of photoresists and other electronics materials related to chemical product, functional coating.

527752 Sigma Aldrich Japan G.K. Ichikawa Site 368 O-Machi Ichikawa-Shi Chiba Japan

Manufacture and import sale of Custom Oligo DNA/RNA, custom Peptide and Antisera.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

532377 Merck Performance Materials Ltd. Atsugi Site 4084, Nakatsu, Aikawa-machi, Aiko-gun Kanagawa Pref. 243-0303 Japan

Design, development and manufacture of chemical products.

497387 Merck Ltd. Atsugi Site 4084, Nakatsu, Aikawa-machi, Aiko-gun Kanagawa Pref. 243-0303 Japan

Distribution of Life Science products.

532379

Merck Performance Materials Ltd. Arco Tower 5F, 1-8-1 Shimomeguro, Meguro-ku Tokyo 153-8927 Japan

Sales of chemical products.

453292 Merck Ltd. Arco Tower 5F, 1-8-1 Shimomeguro, Meguro-ku Tokyo 153-8927 Japan

Supply chain and Quality for sales support of chemical products and life science products.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

497388
Merck Ltd.
Baraki Technical Center
Nippon Express Baraki Air Cargo Center,
2526-26 Baraki Ichikawa,
Chiba Pref. 272-0004
Japan

Stock holding and provision of repair for filtration products and analytical instrumentation.

497390 Merck Ltd. Yokohama Technical Center YBP West Tower 2F, 134 Godo-cho, Hodogaya-ku Yokohama, Kanagawa Pref. 240-0005 Japan

Laboratory testing, validation and compliance services.

With units BioReliance Validation Services, Process solutions Life Science

426640

Merck Performance Materials Ltd. Onahama Site 51-15 Izumimachi Kurosuno Aza Egoshi Iwaki-shi, Fukushima 971-8184 Japan Development and manufacture of chemical products.

505622

Merck Performance Materials Ltd. 306, Pyeongtaekhang-Ro, Poseung-eup Pyeongtaek-shi, Gyeonggi-do 451-822 Republic of Korea Development, manufacture, marketing, sales and servicing of chemicals.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

518304

Merck Electronic Materials Ltd. 50-14 Hyupdongdanji-gil, Miyang-myeon Anseong-si, Gyeonggi-do 17600 Republic of Korea Research, development, production, inspection and testing of light-sensitive materials and related processing chemicals for semiconductor industry.

505621

Merck Ltd. Korea Haesung-Building 15F 508 Teheran-ro, Gangnam-gu Seoul 06178 Republic of Korea Marketing, sales and distribution of pharmaceuticals and chemical products including central functions (HR and finance administration).

536979

Sigma Aldrich Korea Ltd. 113, Songdo Kukje-daero 343 beon-gil Yeon-Su Gu, Incheon-City Republic of Korea Marketing, sales and distribution of reagents for research purposes.

507107

Merck S.A. de C.V.
Calle 5 No. 7 Fracc. Ind. Alce Blanco
53370 Naucalpan de Juárez
Estado de México
Mexico

Sales, distribution and after sales of products and equipment of Life Science and Performance Materials business sectors.

506583

Merck Chemicals B.V. Haarlerbergweg 21 - 23 1101 CH Amsterdam Zuidoost Netherlands

Customer orders and cash processing.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location	Scope
531365 Sigma-Aldrich Chemie BV Stationsplein 4E 3331 LL Zwijndrecht Netherlands	Sales, customer and technical service for laboratory and industrial chemicals.
531354 Sigma-Aldrich Norway AS Drammensveien 123 0277 Oslo Norway	Sales, customer excellence for laboratory and industrial chemicals.
506584 Merck, Inc. 24/F GT Tower International, 6813 Ayala Avenue 1227 Makati City, Metro Manila Philippines	Marketing, sales and distribution of chemical products, laboratory supplies and equipment.
531356 Sigma-Aldrich Sp. z o. o., ul.	Sales, customer and technical service for

Szelągowska 30 61-626 Poznań Poland

laboratory and industrial chemicals.

531358 Sigma-Aldrich Química, S.L. Sucursal em Portugal Edifício DUO Miraflores, Alameda Fernão Lopes, 12 - 5A, B e 4B 1495-190 Algés Portugal

Sales of laboratory and industrial chemicals.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location

528833

Merck Romania SRL Str. Gara Herastrau 4D, Sector 2 020334 Bucharest Romania

Warehouse Localitatea Rudeni, Oras Chitila, Soseaua Rudeni nr. 74 A, Hala C2, 077045 Judetul Ilfov Romania

496590

Merck Pte Ltd. (Life Science) 2 Science Park Drive # 05-01/12 Ascent Building Singapore 118222 Singapore

Warehouse: 5 Tuas Ave 3, #03-00 Warehouse B Singapore 639405

540293 Sigma Aldrich Pte Ltd 2 Science Park Drive #05-01/12 Ascent Building Singapore 118222 Singapore

Warehouse: 18 Tuas Loop

Scope

Marketing and sales of specialty chemicals and high purity preparations, equipment analysis technology filtration equipment, installation and service of equipment sold. Storage of chemicals, medical devices and equipment.

Sales, marketing and distribution of chemicals, laboratory equipment and consumables, filtration, separation, Life Science and purification products.

Provision of warehouse related logistics services from goods receiving delivery to customers.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location	Scope
527484 Merck d.o.o. Serbia Omladinskih brigada 90v 11070 Belgrade Serbia	Wholesale trade of medicines and medical devices.
531348 Sigma-Aldrich spol. s r.o. Dvořákovo nábrežie 4 810 06 Bratislava Slovakia	Sales, customer and technical service for laboratory and industrial chemicals.
531360	

531360 Sigma-Aldrich Sweden AB Solkraftsvägen 14C 135 70 Stockholm Sweden

Sales, customer and technical service and distribution of laboratory and industrial chemicals.

527491 SAFC Hitech Taiwan Co., Ltd. No. 15, Luke 3rd Rd. Kaohsiung Science Park Luzhu Dist. 82151 Kaohsiung City Taiwan

Manufacture of chemicals for industrial applications (for optoelectronics and semiconductor devices).

518305 Merck Performance Materials Ltd. No. 458-6, 8 & 11, Xinxing Rd., Hu Kuo Township Hsinchu County Taiwan

Development and manufacture of photo-resist products, top-layer anti-reflective coating materials and other chemical products.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

426643

Merck Performance Materials Ltd. No. 39, 39-1, Ching Chien 1st Road Kuan Yin Industrial Park Taoyuan Taiwan Development, manufacture and distribution of chemical products.

542621 Merck Ltd. 6F, No.89,Sec.2, Tiding Blvd., Taipei Taiwan Sales and distribution of Life Science Chemicals.

505627 EMD Millipore Corp. 28820 Single Oak Drive Temecula, CA 92590 United States of America

Design and development, manufacture and distribution of chemical and biological reagents.

With associated organization:

26578 Old Julian Highway Ramona, CA 92065

534975

EMD Performance Materials - Ormet Circuits, Inc 6555 Nancy Ridge Drive Suite 200 San Diego, CA 92121 United States of America

The design, development and manufacture of conductive pastes, inks and other materials for electronic applications.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

505631 EMD Millipore Corp. 28820 Single Oak Drive Temecula, CA 92590 United States of America

Design and development, manufacture, technical support and distribution of research use only immunoassay kits. Bioscience global technical and sales support organization.

450330 EMD Performance Materials Corp. 110 EMD Blvd. Savannah, GA 31402 United States of America

Design and development, manufacture and distribution of pigments.

496589 EMD Millipore Corp. 195 W. Birch Street Kankakee, IL 60901 United States of America

Design, development, manufacturing and distribution of highly purified blood proteins and biologically active factors.

With associated organization:

2407 Eastgate Industrial Parkway Kanakee, IL 60901

527747 Sigma-Aldrich 1302 West Anthony Drive Urbana, IL 61802 United States of America

Manufacture of reagents and chemicals for research, development, production and analytical purposes.

527749 SAFC Biosciences, Inc. 11296 Renner Boulevard Lenexa, KS 66215 United States of America

Design, control, procurement and distribution of sera and dry powder media.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

527748 SAFC Biosciences, Inc. 13804 West 107th Street Lenexa, KS 66215 United States of America

Design, control, procurement, manufacturing and distribution of sera, dry powder media, as well as repackaging of raw materials.

496583 EMD Millipore Corp. 80 Ashby Road Bedford, MA 01730 United States of America

Development & customer support for purification and separation media for life science applications, expression technology cell culture products; Service & repair for instruments.

496285
EMD Millipore Corp.
400 Summit Drive
Burlington, MA 01803
United States of America

United States of America

QA, supply chain, 3rd party finished goods, lab testing, validation & compliance service, design, development, manufacture of filtration equipment and chemical products.

532231 Sigma Aldrich Research Biochemicals, Inc. ("Sigma- RBI) 600 Summit Drive Burlington, MA 01803

Design, development, manufacturing, contract manufacturing of reagents, raw materials, components and kits.

527489
EMD Performance Materials Corp.
1429 Hilldale Avenue
Haverhill, MA 01832
United States of America

Manufacturing high purity chemicals for optoelectronics and semiconductor devices.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

496587 EMD Millipore Corp. 17 Cherry Hill Drive Danvers, MA 01923 United States of America

Danvers single-use manufacturing.

527745 Sigma-Aldrich 2425 South Second Street (Barton) St. Louis, MO 63104 United States of America

Storage and distribution of chemical reagents, raw materials, media, components and kits.

527743 Sigma-Aldrich Corporation 3500 Dekalb Street St. Louis, MO 63118 United States of America

Design, development, manufacturing, testing, QA, warehouse, maintenance of chemical reagents, raw materials and components. Customer processes.

With associated organizations:

- 545 South Ewing Street, St. Louis, MO 63103
- 3300 South Second Street, XY Building, St. Louis, MO 63118
- 2909 Laclede Street, St. Louis, MO 63101
- 3050 Spruce Street, St. Louis, MO 63103

527744 Sigma-Aldrich, Inc. 3506 South Broadway (Broadway) St. Louis, MO 63118 United States of America

Design, development, customer processes, manufacturing, testing, QA, warehousing, maintenance of chemical reagents, raw materials and components.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

546398 Sigma-Aldrich, Inc. 3300 South Second Street St. Louis, MO 63118 (Cherokee) United States of America Buffers: manufacturing, packaging, QA, QC

546401 Sigma-Aldrich, Inc. 3506 South Broadway St. Louis, MO 63118 United States of America Cell Culture Media: manufacturing, packaging, QA, QC

492647 EMD Millipore Corp. 11 Prescott Road Jaffrey, NH 03452 United States of America

Manufacture of membrane and filtration products.

518306 EMD Performance Materials Corp. 70 Meister Avenue Branchburg, NJ 08876 United States of America

Design and manufacture of photoresist and related chemical products.

527764

Research Organics LLC., dba SAFC 4353 East 49th Street Cleveland, OH 44125 United States of America

Manufacturing of high purity biochemicals.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location	Scope
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505606 EMD Millipore Corp. 2828 Highland Avenue Norwood, OH 45212 United States of America

Design and development, manufacture and distribution of high purity organic solvents, organic chemicals/ reagents, acids and chemical specialities.

527733 Sigma-Aldrich Corporation 3858 Benner Road Miamisburg, OH 45342 United States of America

Development, procurement, production, testing and sales of chemicals, reagents and laboratory equipment for research, development, production and analytical purposes.

527767 Supelco, Inc. 595 North Harrison Rd. Bellefonte, PA 16823 United States of America

The design, development, manufacture, distribution and technical support of chromatography products for analysis and purification.

527734 Aldrich Chemical Co., LLC Ironrun Industrial Park 6950 Ambassador Drive Allentown, PA 18106 United States of America

Distribution of chemicals, reagents and laboratory equipment for research, development, production and analytical purposes.

527751 SAFC Biosciences, Inc. 5 Dutch Court (Reading) Sinking Spring, PA 19608 United States of America

Distribution of dry powder media and repackaging of raw materials.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

518307 EMD Performance Materials Corp. 788 Chert Quarry Rd. Martin, SC 29836 United States of America

Design and manufacture of colloidal silica.

With associated organization:

8604 Cliff Cameron Drive, Suite 105 Charlotte, NC 28269 United States of America

527766

Sigma-Genosys of Texas LLC
Dba Sigma Custom Products
9186 Six Pines Drive, Suite 100
The Woodlands, TX 77380
United States of America

Manufacture of DNA, siRNA, AQUA and PEPscreen peptides for the research and applied science markets.

527762

Cerilliant Corporation 811 Paloma Drive, Suite A Round Rock, TX 78665 United States of America Design and manufacturing of certified reference materials, analytical reference standards, analytes and chemical reagents.

527738

Aldrich Chemical Co., LLC 6000 North Teutonia Avenue Milwaukee, WI 53209 United States of America Development, procurement, production, testing, sales and distribution of chemicals, reagents and laboratory equipment for research, development, production and analytical purposes.

With associated organizations at Milwaukee Emmber Lane, Sheboygan Falls and Port Washington.



Merck KGaA

Frankfurter Strasse 250 64293 Darmstadt Germany

Location Scope

527765 Sigma Aldrich RTC, Inc. 2931 Soldier Springs Road Laramie, WY 82070 United States of America

Design, manufacturing, certify and distribute, certified reference materials and proficiency testing materials and to conduct laboratory proficiency testing program.

505624 Merck (Pty) Ltd. Modderfontein & Wadeville 1 Friesland Drive Longmeadow Business Estate Modderfontein 1645 South Africa

Sales, marketing and distribution of locally produced and imported goods for Life Science industry, pigments and cosmetics, and laboratory consumables. This includes installing, maintaining, repairing and validating Lab Water-, Bioscience-, Biomonitoring- and Third Party systems.

Certificate

This is to certify that

SIGMA-Aldrich Chemie GmbH

91625 Schnelldorf

has introduced and applied a Management System for Occupational Health and Plant Safety, that complies with the requirements of the Occupational Health- and Risk-Management System -OHRIS:2010-.

This Management System also fulfills the "Guidelines on occupational safety and health management systems, ILO-OSH 2001", the "National Guidelines on Occupational Safety and Health Management Systems" as well as the LASI-Guidelines "Occupational Safety and Health Management Systems, LV 21".

Certificate No. 09 – 00260

This certificate is valid until 25.06.2020

Ansbach, the 26.06.2017 by order of

Banes

Dr. Bauer District president



Bavarian State Ministry of Labour , Social and Family Affairs and Integration





Site Quality Self-Assessment

based on

Rx-360 Supplier Assessment Questionnaire

Module 2, Site Specific Information

Relevant for

Sigma-Aldrich Chemie GmbH Kappelweg 1 91625 Schnelldorf Germany

The site self-assessment covers our quality management system for the following applications:

- central distribution center for Europe



Merck KGaA, Darmstadt, Germany is an active member of the Rx 360 Consortium

As a trusted partner of our customers, we deliver quality - always.

Merck KGaA, Darmstadt, Germany Corporation with General Partners Frankfurter Str. 250 64293 Darmstadt, Germany Phone +49 6151 72-0 Sigma-Aldrich Corporation A subsidiary of Merck KGaA, Darmstadt, Germany 3050 Spruce Street St. Louis, MO 63103, USA Phone +1 (800) 521-8956 / +1 (314) 771-5765 EMD Millipore Corporation A subsidiary of Merck KGaA, Darmstadt, Germany 400 Summit Drive Burlington, MA 01803, USA Phone +1 (781) 533-6000



Information

This document is based on the Rx-360 Consortium's Supplier Assessment Questionnaire template, Module 2. The contents of this questionnaire are built on the Rx-360 questionnaire version 2.0 intact with no question added or deleted.

Rx-360's CEO/COO gave permission to Life Science to use the Rx-360 logo.



Merck KGaA, Darmstadt, Germany is an active member of the Rx 360 Consortium.

Merck KGaA, Darmstadt, Germany Corporation with General Partners Frankfurter Str. 250 64293 Darmstadt, Germany Phone +49 6151 72-0

Sigma-Aldrich Corporation A subsidiary of Merck KGaA, Darmstadt, Germany 3050 Spruce Street St. Louis, MO 63103, USA Phone +1 (800) 521-8956 / +1 (314) 771-5765 EMD Millipore Corporation A subsidiary of Merck KGaA, Darmstadt, Germany 400 Summit Drive Burlington, MA 01803, USA Phone +1 (781) 533-6000

Rx-360 Supplier Assessment Questionnaire : Site-Specific Information

Please	check h	ere if a	additional	Ldocuments	are attached.

	SECTION 1. General Site Information
1.1	Site or Facility-Specific Name: Sigma-Aldrich Chemie GmbH Schnelldorf
1.2	Address: Kappelweg 1 91625 Schnelldorf
	GPS Coordinates: Lattitude 49°11'31.4874 Longitude 10°10'39.828
1.3	Phone: Phone: +49 (0)7950 9809 3065 24 h phone: +49 (0)9732 9972323
1.4	Email: please refer to your local Sales representative
1.5	Fax: + 49 (0)7950 9809 3005
1.6	Website: www.sigmaaldrich.com

SECTION 2. General Site Operating Information					
2.1	What year did the site start operating? 1998				
2.2	What is the primary activity of the site? (e.g. manufacturing, distribution, etc.) The facility is operating as central distribution center for Europe. It is supplying distribution centers worldwide and is serving endcustomers in Europe and Middle East.				
2.3	To which, if any, subdivision of the parent company does the site belong? Sigma-Aldrich Chemie GmbH, a subsidiary of Merck KGaA Darmstadt				
2.4	Size of site (in sq. ft. or m.): 17400 sqm				
2.5	Please list or attach the normal hours/schedule of the facilities, including shutdown dates (if applicable): Mo - Do, 7:00 - 22:00, Fr 7:00 - 20:00				
2.6	Total number of employees on site: 220				
2.7	Total number of employees in Quality: 1				
2.8	Total number of employees in Manufacturing: 0				
2.9	What quality management system is utilized on site? ISO 9001 ISO 13485 21 CFR Part 210/211 21 CFR Part 820 European GMP, Eudralex Volume 4 Part I European GMP, Eudralex Volume 4 Part II ICH Q7 HACCP ISO 22000 Other Please describe:				
	Which Regulatory Initiatives does the site follow/comply with? ☐ REACH				

	SECTION 2. General Site Operating Information					
	RoHs Ca Prop. 65 WEEE					
2.10	Does the company/site					
2.11	Is the site registered with any government regulatory agency (FDA registration, GMP certification, etc.)? Yes No N/A If yes, please specify.					
2.12	By whom is the site inspected (regulatory or third party) and list inspections within the last three years: USP (2018) DQS (2018) Novo Nordisk (2018) Lonza (2016) Merck global quality functions (2017 and 2018)					
2.13	How often, as an annual average, is the site audited by customers or third parties?					
2.14	Has an Rx-360 audit been performed at this site? Yes No Please also state the date of the audit if applicable. http://rx-360.org/audit-programs/					
2.15	Are you willing to have Rx-360 conduct an audit on behalf of your customers according to the Rx-360 audit programs on your site? Yes No					
2.16	Are you willing to have your customers conduct audits on your site? Yes No					
2.17	Please list regulatory sanctions impacting the site within the last five years (i.e. warning letters, CEP suspension, import alerts, etc.): N/A					
2.18	Does the site outsource any quality-related activity?					
	☐ Yes ☐ No ☐ N/A					
	If answering yes, please specify the activities:					

	SECTION 2. General Site Operating Information								
2.19	Please check the supplier controls in place for this facility:								
2.19a	Quality Agreements with		<u></u>						
	Suppliers	Yes	☐ No	⊠ N/A					
2.19b	Subcontractor Qualification/Audit								
	Program	⊠ Yes	∐ No	∐ N/A					
2.19c	Periodic Review of Supplier								
	Performance	⊠ Yes	∐ No	∐ N/A					
2.19d	Supplier Feedback Program	Yes	⊠ No	□ N/A					
2.19e	Approved Material Supplier List	Yes	☐ No	N/A					
2.19f	Approved Service Supplier List	∑ Yes	☐ No	□ N/A					
Additional comments:									
Order, release and qualification of materials stored is not located on site. Quality agreements									
are in	the responsibility of the releasing site	es or approriat	e marketing func	etions.					

SECTION 3. Objectionable Materials on Site								
3.1	Does the site or production plant produce, process or store any of the following:	Yes	No	Not Applicable				
3.1a	Beta-Lactam Antibiotics							
3.1b	Steroids and/or hormones							
3.1c	High potency compounds							
3.1d								
3.1e	Live virus or micro-organism		\boxtimes					
3.1f	Allergens							
3.1g	Genetically Modified Organisms (GMO)		\boxtimes					
3.1h	Agrochemicals (Pesticides, Herbicides, Fungicides, etc.)							
3.1i Other (Please specify): Only storage of finished goods is performed at site. No bulk storage, no open product handling								
	SECTION 4. Cross Contamin	nation C	ontrol					

4.1	Are any of the following cross-contamination controls in place?	Yes	No	Not Applicable					
4.1a	Dedicated Facilities								
4.1b	Access Controls								
4.1c	Dedicated Personnel								
4.1d	Dedicated Gowning								
4.1e	Procedural Controls								
4.1f	Other (please specify):								
Additional Comments: only closed containers are handled on site, no open product									
hand	ling performed								

	SECTION 5. Site Operating Policies							
5.1	5.1 Does the site utilize the following written policies, programs, or procedures?							
Site Spe	Site Specific:			Not Applicable				
5.1a	Environmental, Health, and Safety							
5.1b	Facility Environmental Control Policy							
5.1c	General Facility Cleaning Procedures	\boxtimes						
5.1d	Hygiene and Sterilization Procedures							
5.1e	Validated Equipment Cleaning Procedures							
5.1f	Preventative Maintenance Program/Procedures	\boxtimes						
5.1g	Pest Control Program	\boxtimes						
5.1h	Master Production Procedure							
Quality	:							
5.1i	Quality Control/Quality Management Policy							
5.1j	Quality Manual							
5.1k	Periodic Product Quality Review							
5.11	Master Validation Plan							
5.1m	Risk Assessment Program							
5.1n	Supplier Approval Procedure							
5.1o	Monitoring and Review of Approved Suppliers							
5.1p	Mechanism to Reduce Testing							
5.1q	Receiving Incoming Inspection							
5.1r	Change Control Procedures							
5.1s	Document Management Policy							
5.1t	Document Retention Policy							
5.1u	Change Notification Procedures for Clients							
5.1v	Control of Nonconforming Material							
5.1w	Deviation/Investigation Procedure							
5.1x	Out of Specification Policy and Procedure							
5.1y	Sampling Procedure/Sampling Plan							

Raw Material Retention Program			
		H	
Product Release Procedure		H	
Employee Training Program			
· · · · · · · · · · · · · · · · · · ·			
Product Retention Program			\boxtimes
Recall Procedure			
Customer Complaint Handling	\boxtimes		
Equipment validation/qualification procedure	\boxtimes		
SECTION 5. Site Operating P	olicies		
	Yes	No	Not Applicable
Internal audit/self-inspection program procedure	\boxtimes		
Site Security/Site Access Control Policies	\boxtimes		
New Hire Program/Induction Program	\boxtimes		
Continuity/Contingency Plan:			
Disaster Recovery Plan			
Pandemic Preparedness Plan	\boxtimes		
Supply Chain Emergency Preparedness Plan	\boxtimes		
Business Continuity/Contingency Plan	\boxtimes		
Can the company provide a plan upon request? C below:	R provide	e a short o	description
	Employee Training Program Stability, Expiration, and Shelf-Life Program Product Retention Program Recall Procedure Customer Complaint Handling Equipment validation/qualification procedure SECTION 5. Site Operating Procedure Site Security/Site Access Control Policies New Hire Program/Induction Program Continuity/Contingency Plan: Disaster Recovery Plan Pandemic Preparedness Plan Supply Chain Emergency Preparedness Plan Business Continuity/Contingency Plan Can the company provide a plan upon request? Continuity Program Products?	CAPA Procedure Label Control and Accountability Product Release Procedure Employee Training Program Stability, Expiration, and Shelf-Life Program Product Retention Program Recall Procedure Customer Complaint Handling Equipment validation/qualification procedure SECTION 5. Site Operating Policies Yes Internal audit/self-inspection program procedure Site Security/Site Access Control Policies New Hire Program/Induction Program Continuity/Contingency Plan: Disaster Recovery Plan Pandemic Preparedness Plan Supply Chain Emergency Preparedness Plan Business Continuity/Contingency Plan Can the company provide a plan upon request? OR provide	CAPA Procedure

	SECTION 6. Quality Assurance and Production						
		Yes	No	Not Applicable			
6.1	Does the site have an independent and defined Quality Assurance/Quality Management Division?	\boxtimes					
6.2	Does QA/QM have authority over the following:						
6.2a	Policies and procedures?						
6.2b	Review of documentation for release?			\boxtimes			
6.2c	Release or rejection of incoming materials?			\boxtimes			
6.3	Does QA/QM investigate and resolve quality complaints?		\boxtimes				
6.4	Does QA/QM investigate and resolve internal deviations?						
6.5	Does the QA/QM have the authority to assign a disposition to materials?						

SECTION 6. Quality Assurance and Production							
		Yes	No	Not Applicable			
6.6	Does the QA/QM review manufacturing and testing records prior to release?						
6.7	Does the facility utilize computerized systems for managing GxP activities or data?	\boxtimes					
6.8	Are relevant computerized systems 21 CFR part 11 and EU GMP annex 11 compliant?						
6.9	Does the site use statistical methods for consistency and uniformity?						
6.10	Does the site use controlled documents for following and recording manufacturing instructions?						
6.11	Does the company qualify and/or validate manufacturing procedures?						
6.12	Is any environmental monitoring conducted in production/finishing areas?						
6.13	Does the site supply BSE/TSE declarations?			\boxtimes			
6.14	Does the site supply a declaration of Elemental Impurities?	Ħ		X			
6.15	Are ICH Q3C(R4) solvents used in the manufacturing process of supplied materials?						
6.16	Are stability studies carried out according to ICH guidance?			\square			
6.17	Are solvents and mother liquor reused/recycled?			$\overline{\boxtimes}$			
6.18	Does the site have a process water treatment system?						
6.18a	Please check all that apply to the system:						
	City/potable water						
	Distilled water						
	Dionized water						
	Water for injection (WFI)						
	Reverse Osmosis						
	Clean steam						
	Ultra-filtrated water (purified water)						
	Other:						
6.19	Does the plant have a batch/lot system?	\boxtimes					
6.19a	Is the system traceable?	\boxtimes					
6.19b	Is it unique?	\boxtimes					
6.19c	Is batch/lot manufacturing continuous?			\boxtimes			
6.19d	Is manufacturing batch by batch?						
6.20	Does the site perform on-plant audits prior to approving			\boxtimes			
	critical GxP suppliers?		ГШ				

	SECTION 6. Quality Assurance and Production						
			Yes	No	Not Applicable		
6.21	Does the site audit critical GxP suppliers after initial approval?						
6.22	Does the site inspect incoming materials?			\boxtimes			
6.23	Does the site test incoming materials to defined specifications?						
6.24	Does the site establish purchase specifications for ramaterials?	W					
6.25	Is the equipment multi-use?				\boxtimes		
6.26	Does the site qualify equipment installation?		\boxtimes				
6.27	Does the site qualify equipment operation?		\boxtimes				
6.28	Does the site qualify equipment performance?		\boxtimes				
6.29	Are production critical use instruments calibrated reg	gularly?					
6.30	Is rework allowed?						
6.31	Is reprocessing allowed?						
6.32	Are manufacturing and packaging activities traceable equipment, areas, and materials used?	e to the					
6.33	Are production materials handled and stored in a maprevent degradation, contamination and cross-contamination				\boxtimes		
6.34	If answering 'not applicable' for any of the above, please No production or QC activities on site. The site is a pure distribution of the above, please of t						
Additi	onal Comments:						
	SECTION 7. Laboratory Procedures		\bigvee N/A	A for	r this Site		
		Yes	No	N	ot Applicable		
7.1	Does the site have standard procedures for sample handling/tracking?						
7.1a	Does the site have standard procedures for retaining samples?						
7.1b	Does the site have standard procedures for retesting samples?						
7.2	Does the site have written and approved specifications and test methods?						
7.3	Are laboratory instruments calibrated regularly?						
7.4	Is there a standard procedure in place for analytical method development?						
7.5	Does the site qualify and/or validate analytical test procedures?						
7.6	Does the site perform stability testing on materials and/or products?						

	SECTION 7. Laboratory Procedures		oxtimes N/A for this Site	
		Yes	No	Not Applicable
7.7	Are retention samples of key raw materials maintained?			
7.8	Are standards traceable to their preparation and reagents used?			
7.9	Are retention samples of finished product maintained?			
7.10	Are shelf life/retest/expiration dates available and standardized?			
7.11	Does the company provide a certificate of analysis (CoA) and/or a Certificate of Conformation/Compliance (CoC) for each lot or batch?			
7.12	Does the CoA/CoC contain the manufacture name and location?			
7.13	Does the CoA/CoC signed/e-signed by a Quality representative?			
7.14	If a repacker performs analyses, will the CoA reflect both the original manufacturing site data as well as the repacking site data?			
7.15	If answering 'not applicable' for any of the above,	please elab	orate:	
7.16	Additional Comments:			
S	SECTION 8. Packaging, Storage, and Transport		☐ N/A for this Site	
		Yes	No	Not Applicable
8.1	Does the site have a validated or qualified labeling system?			
8.2	Are batch production records retained and available?			
8.3	Are packaging and labeling areas separate from production?			
8.4	Are barcode readers in use and challenged regularly?			
8.5	Are vision systems in use?			
8.6	Is product ever packaged without a label being initially applied (i.e. bright stocking)?			
8.7	Do labels include shelf life/expiration dates?	\boxtimes		
8.8	Do labels include lot/batch number?			
8.9	Do labels include requirements for storage conditions?			

SECTION 8. Packaging, Storage, and Transport				☐ N/A for this Site	
		Yes	No	Not Applicable	
8.10	Is tamper evident seal used for each container of supplied materials?				
8.11	Does the company use a First-In-First-Out or First-Expiration-First-Out system?	\boxtimes			
8.12	Does the company maintain appropriate storage conditions?	\boxtimes			
8.12a	Are those storage conditions monitored and documented?	\boxtimes			
8.13	Does the site make available a description of storage and/or warehouse conditions?	\boxtimes			
8.14	Does the site distribute products via a third party?		\boxtimes		
8.15	Are good distribution policies implemented?	\boxtimes			
8.16	Are transport mechanisms dedicated?	\boxtimes			
8.17	Does the company validate shipping method?	\boxtimes			
8.18	Does the company validate packaging methods?	\boxtimes			
Additional Comments: Primary packaging and labelling is not performed on site. Only released materials from other sites or approved 3 rd party suppliers are stored and distributed. No open product handling performed on site.					

I (Supplier) confirm that the information provided in this questionnaire is correct and can be verified.

Date:08 Feb. 2019

Title:Site Director