Safety Data Sheet (SDS) According to the REACH Regulation (EC) No. 1907/2006

Issuing Date: 2015-01-14 **Revision Date:** 2018-03-23 **Version:** 3

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

1.1. Product identifier

Product No 12121
Product name Lapatin
Reach registration number This substance/mixture contains only ingredients which have been registered, or are exempt from registration, according to Regulation (EC) No. 1907/2006.

Contains

Chemical Name	Index No.	CAS No
N-[3-chloro-4-{ [3-(fluorophenyl)methl]oxy} phenyl)-6-[5-({ [2-(methylsufonyl)ethyl]amino} methyl)-2-furanyl]-4-quinazolinamine bis(4-methylbenzenesulfonate) (90 - 100%)	Not Listed	388082-78-8

Formula $C_{29}H_{26}ClFN_4O_4S$ $(C_7H_8O_3S)_2$
Molecular Weight 925.46 g/mol
Other means of identification 12121S

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

Identified uses For research use only

1.3. Details of the supplier of the safety data sheet

Importer (Applicable in EU only)
Cell Signaling Technology Europe B.V.
Schuttersveld 2
2316 ZA Leiden
The Netherlands
TEL: +31 (0)71 7200 200
FAX: +31 (0)71 891 0098

Manufacturer
Cell Signaling Technology, Inc.
3 Trask Lane
Danvers, MA 01923
United States
TEL: +1 978 867 2300
FAX: +1 978 867 2400

Website www.cellsignal.com
E-mail Address info@cellsignal.eu

1.4. Emergency telephone number

CHEMTREC 24 hours a day, 7 days a week, 365 days a year
+1 703 527 3887 (INTERNATIONAL) +1 800 424 9300 (NORTH AMERICA)

Europe 112

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No. 1272/2008

Reproductive toxicity	Category 1B - (H360D)
Specific target organ toxicity - repeated exposure (STOT RE)	Category 1 - (H372)
Chronic aquatic toxicity	Category 4 - (H413)

2.2. Label elements

Signal word
Danger

Hazard statement(s)
H360D - May damage the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure if swallowed
H413 - May cause long lasting harmful effects to aquatic life

Precautionary statement(s)
P201 - Obtain special instructions before use
P202 - Do not handle until all safety precautions have been read and understood
P260 - Do not breathe dust/fume/gas/mist/vapors/spray
P264 - Wash face, hands and any exposed skin thoroughly after handling
P270 - Do not eat, drink or smoke when using this product
P273 - Avoid release to the environment
P280 - Wear protective gloves/protective clothing/eye protection/face protection
P308 + P313 - IF exposed or concerned: Get medical advice/attention
P405 - Store locked up
P501 - Dispose of contents/container to an approved waste disposal plant

2.3. Other hazards

For the full text of the H-phrases & EUH-phrases mentioned in this Section, see Section 16

SECTION 3: Composition/information on ingredients

3.1 Substances

Synonyms Lapatinib Ditosylate;
Tykerb;
4-Quinazolinamine,
N-(3-chloro-4-((3-fluorophenyl)methoxy)phenyl)-6-(5-(((2-(methylsulfonyl)ethyl)amino)methyl)-2-furanyl), bis(4-methylbenzenesulfonate), monohydrate

Formula $C_{29}H_{26}ClFN_4O_4S$ $(C_7H_8O_3S)_2$

Chemical nature Monoconstituent substance.

Chemical Name	CAS No	Weight %	EC No	Classification (1272/2008)	REACH Registration Number
N-[3-chloro-4-{ [3-(fluorophenyl)methl]oxy} phenyl)-6-[5-({ [2-(methylsufonyl)ethyl]amino} methyl)-2-furanyl]-4-quin	388082-78-8	100	-	Repr. 1B (H360D) STOT RE 1 (H372) Aquatic Chronic 4 (H413)	no data available

azolinamine bis(4-methylbenzenesulfonate)					

For the full text of the R-phrases mentioned in this Section, see Section 16

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Use first aid treatment according to the nature of the injury. When symptoms persist or in all cases of doubt seek medical advice.

Inhalation Move to fresh air.

Skin contact Wash off immediately with soap and plenty of water removing all contaminated clothes and shoes.

Eye contact Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.

Ingestion Clean mouth with water and afterwards drink plenty of water.

4.2. Most important symptoms and effects, both acute and delayed

Diarrhea. Nausea. rash. Vomiting. tiredness. Loss of appetite. Headache. Dry skin. infection. mouth sores. indigestion. hair loss. nose bleeds.

4.3. Indication of any immediate medical attention and special treatment needed

Notes to physician Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.

Unsuitable Extinguishing Media No information available.

5.2. Special hazards arising from the substance or mixture

Thermal decomposition can lead to release of irritating gases and vapors.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective suit. Use personal protective equipment.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Evacuate personnel to safe areas. Ensure adequate ventilation.

For emergency responders Use personal protection recommended in Section 8.

6.2. Environmental precautions

Should not be released into the environment. Prevent further leakage or spillage if safe to do so. Local authorities should be advised if significant spillages cannot be contained.

6.3. Methods and material for containment and cleaning up

Methods for containment Prevent further leakage or spillage if safe to do so.

Methods for cleaning up Take up mechanically, placing in appropriate containers for disposal.

6.4. Reference to other sections

See Sections 8 & 13 for additional information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

Keep container tightly closed in a dry and well-ventilated place.

7.3. Specific end use(s)

Use as a laboratory reagent.

SECTION 8: Exposure controls/personal protection

8.1. Control parameters

8.2. Exposure controls

Appropriate engineering controls
Showers, eyewash stations, and ventilation systems.

Individual protection measures, such as personal protective equipment

Eye/face protection	Safety glasses with side-shields
Skin protection	
Hand protection	Impervious gloves.
Other	Wear suitable protective clothing.
Respiratory protection	In case of inadequate ventilation wear respiratory protection.

Environmental Exposure Controls
No information available.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Solid
Appearance	Powder
Color	Yellow
Odor	No information available
Odor Threshold	No information available

Property	**Values**	**Remarks • Method**
pH		No information available
Melting point/freezing point	241-252 °C	
Initial boiling point and boiling range		No information available
Flash point		No information available.
Evaporation rate		No information available
Flammability (solid, gas)		No information available
Upper flammability limit		No information available
Lower flammability limit		No information available
Vapor pressure		No information available
Vapor density		No information available

Relative density		No information available
Solubility	Practically insoluble	
Partition coefficient: n-octanol/water		No information available
Autoignition temperature		No information available
Decomposition temperature		No information available.
Viscosity		No information available
Explosive properties		No information available
Oxidizing properties		No information available

9.2. Other information

Softening point	No information available
Molecular Weight	925.46 g/mol
Solubility in other solvents	Soluble in dimethyl sulfoxide (DMSO) @ 200 mg/mL
VOC content	No information available
Density	No information available.

SECTION 10: Stability and reactivity

10.1. Reactivity

No information available.

10.2. Chemical stability

Stable under normal conditions.

10.3. Possibility of hazardous reactions

Hazardous polymerization	Hazardous polymerization does not occur.
Hazardous reactions	None under normal processing.

10.4. Conditions to avoid

None known based on information supplied.

10.5. Incompatible materials

No information available.

10.6. Hazardous decomposition products

None under normal use conditions.

SECTION 11: Toxicological information

11.1. Information on toxicological effects

This material should only be handled by, or under the close supervision of, those properly qualified in the handling and use of potentially hazardous chemicals. It should be borne in mind that the toxicological and physiological properties of this compound is not well defined.

Information on likely routes of exposure

Inhalation	May cause irritation of respiratory tract.
Eye contact	Contact with eyes may cause irritation.
Skin contact	May cause irritation.
Ingestion	May cause adverse liver effects. May cause adverse cardiac effects. May cause gastrointestinal discomfort if consumed in large amounts.
Symptoms	Diarrhea. Nausea. rash. Vomiting. tiredness. Loss of appetite. Headache. Dry skin.

	infection. mouth sores. indigestion. hair loss. nose bleeds.
Skin corrosion/irritation	No information available.
Serious eye damage/eye irritation	No information available.
Sensitization	No information available.
Mutagenic effects	Did not show mutagenic effects in animal experiments.
Carcinogenic effects	No information available.
Reproductive toxicity	This material is classified as a Pregnancy Category D: Positive evidence of risk.
Developmental toxicity	Lapatinib was studied for effects on embryo-fetal development in pregnant rats and rabbits given oral doses of 30, 60, and 120 mg/kg/day. Minor anomalies (left-sided umbilical artery, cervical rib, and precocious ossification) occurred in rats at the maternally toxic dose of 120 mg/kg/day. In rabbits, lapatinib was associated with decreased fetal body weights and minor skeletal variations at 60 and 120 mg/kg/day.
Teratogenicity	In a study where pregnant rats were dosed with lapatinib during organogenesis and through lactation, at a dose of 120 mg/kg/day, 91% of the pups had died by the fourth day after birth, while 34% of the 60 mg/kg/day pups were dead.
STOT - single exposure	No information available.
STOT - repeated exposure	May cause disorder and damage to the: Liver, Heart, Respiratory system, Gastrointestinal tract (GI), Skin.
Aspiration Hazard	No information available.
Other information	No information available.

SECTION 12: Ecological information

12.1. Toxicity

May cause long lasting harmful effects to aquatic life

12.2. Persistence and degradability

Not readily biodegradable. 32% 28 day period.

12.3. Bioaccumulative potential

Bioaccumulation	Material may have some potential to bioaccumulate.
Bioconcentration factor (BCF)	No information available.

Chemical Name	Octanol-Water Partition Coefficient
N-[3-chloro-4-{ [3-(fluorophenyl)methl]oxy} phenyl)-6-[5-({ [2-(methylsufonyl)ethyl]amino} methyl)-2-furanyl]-4-quinazolinamine bis(4-methylbenzenesulfonate)	4.65 - 6.12

12.4. Mobility in soil

Is not likely mobile in the environment due its low water solubility.

12.5. Results of PBT and vPvB assessment

No information available.

12.6. Other adverse effects

No information available

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues / unused products	Dispose of in accordance with local regulations.
Contaminated packaging	Empty containers should be taken to an approved waste handling site for recycling or disposal.

Other information	Waste codes should be assigned by the user based on the application for which the product was used.

SECTION 14: Transport information

IMDG/IMO

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
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 regulated

ADR/RID

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

IATA

14.1 UN number	Not regulated
14.2 UN proper shipping name	Not regulated
14.3 Transport hazard class(es)	Not regulated
14.4 Packing group	Not regulated
14.5 Environmental hazards	None
14.6 Special precautions for user	None

SECTION 15: Regulatory information

15.1. Safety, health and environmental regulations/legislation specific for the substance or mixture

Candidate List of Substances of Very High Concern for Authorization Information

This product does not contain Substances of Very High Concern (SVHC).

SEVESO Directive Information

This product does not contain substances identified in the SEVESO Directive.

International inventories

TSCA 8(b)	-
DSL/NDSL	-
EINECS/ELINCS	-
ENCS	-
IECSC	-
KECL	-
PICCS	-
AICS	-

International inventories legend

TSCA - United States Toxic Substances Control Act Section 8(b) Inventory
DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List
EINECS/ELINCS - European Inventory of Existing Commercial Chemical Substances/EU List of Notified Chemical Substances
ENCS - Japan Existing and New Chemical Substances
IECSC - China Inventory of Existing Chemical Substances
KECL - Korean Existing and Evaluated Chemical Substances
PICCS - Philippines Inventory of Chemicals and Chemical Substances
AICS - Australian Inventory of Chemical Substances

15.2. Chemical safety assessment

For this substance a chemical safety assessment has not been carried out

SECTION 16: Other information

Full text of H-Statements referred to under Sections 2 and 3

H360D - May damage the unborn child
H372 - Causes damage to organs through prolonged or repeated exposure if swallowed
H413 - May cause long lasting harmful effects to aquatic life

Classification procedure: Expert judgment and weight of evidence determination.
Issuing Date: 2015-01-14
Revision Date: 2018-03-23

Disclaimer

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