

Product Name: TN229BK, TN229XLBK, TN229XXLBK, TN229VBK, TN229RBK, TN229XLBK 2PK, TN219BK, TN219XLBK, TN219XXLBK, TN248BK, TN248XLBK, TN249BK, TN252PBK, TN258BK, TN258XLBK, TN259BK, TN258XLBK 2PK, TN269BK, TN269XLBK, TN269XXLBK, TN279BK, TN279XLBK, TN279XXLBK, TN289BK, TN289XLBK, TN299XLBK, TN299XXLBK toner

Safety data sheet number: PT407-01

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

1.1. Product identifier

Safety data sheet number PT407-01

Product Name TN229BK, TN229XLBK, TN229XXLBK, TN229VBK, TN229RBK, TN229XLBK 2PK, TN219BK, TN219XLBK, TN219XXLBK, TN248BK, TN248XLBK, TN249BK, TN252PBK, TN258BK, TN258XLBK, TN259BK, TN258XLBK 2PK, TN269BK, TN269XLBK, TN269XXLBK, TN279BK, TN279XLBK, TN279XXLBK, TN289BK, TN289XLBK, TN299XLBK, TN299XXLBK toner

Other means of identification

Pure substance/mixture Mixture

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

Recommended use These products are black toner in a cartridge for Brother Industries, Ltd. laser printers, multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated. Information provided on this SDS is only consistent with the use specified by Brother.

Uses advised against No information available

1.3. Details of the supplier of the safety data sheet

Manufacturer

Brother Industries, Ltd.
15-1 Naeshiro-cho, Mizuho-ku, Nagoya 467-8561, Japan
Telephone (for information): +81-52-824-2735

Supplier

(Europe)
Brother International (Nederland) B.V.
Zanderij 25, 1185 ZM Amstelveen, The Netherlands

Brother International Europe Ltd.
1 Tame Street, Audenshaw, Manchester M34 5JE, UK
Telephone (for information): +44-161-330-6531
For further information, please contact

E-mail address sds.info@brother.co.jp

1.4. Emergency telephone number

Revision date: 24-Aug-2023

Issuing Date: 13-Sep-2021

Revision Number: 2

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Emergency Telephone

CHEMTREC +1-703-527-3887 (International)

For France only:

Antipoison Center telephone number: ORFILA +33-1-45-425-959

SECTION 2: Hazards identification

2.1. Classification of the substance or mixture

Regulation (EC) No 1272/2008

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

2.2. Label elements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

Hazard statements

This mixture is classified as not hazardous according to regulation (EC) 1272/2008 [GHS]

89.3 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

99.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

99.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

Unknown aquatic toxicity

Contains 0.4 % of components with unknown hazards to the aquatic environment.

2.3. Other hazards

No information available.

Endocrine Disruptor Information

This product does not contain any known or suspected endocrine disruptors.

SECTION 3: Composition/information on ingredients

3.1 Substances

Not applicable

3.2 Mixtures

Chemical name	CAS No.	EC No (EU Index No)	EC Index No	Weight-%	Classification according to Regulation (EC) No. 1272/2008	Specific concentration limit (SCL)	M-Factor	M-Factor (long-term)	REACH registration number

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					[CLP]				
Styrene-acrylate-copolymer	25767-47-9	607-806-7		60-70	No data available	-	-	-	Not applicable
Fatty acid ester	**	-		10-15	No data available	-	-	-	Registered
Carbon Black (bound)	1333-86-4	215-609-9		5-10	No data available	-	-	-	01-2119384 822-32-XX XX
Styrene-acrylate Resin	**	-		4-8	No data available	-	-	-	Not applicable
PMMA	9011-14-7	618-466-4		1-3	No data available	-	-	-	Not applicable
Silicon dioxide (amorphous)	112945-52-5	601-216-3		=<1.5	No data available	-	-	-	Registered
Silicon Dioxide (amorphous)	7631-86-9	231-545-4		=<1	No data available	-	-	-	01-2119379 499-16-XX XX
Zinc stearate	557-05-1	209-151-9		=<0.5	No data available	-	-	-	Registered

Full text of H- and EUH-phrases: see section 16

Acute Toxicity Estimate

No information available

This product does not contain candidate substances of very high concern at a concentration $\geq 0.1\%$ (Regulation (EC) No. 1907/2006 (REACH), Article 59)

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice	If symptoms persist, call a physician.
Inhalation	Remove to fresh air. Get immediate medical advice/attention.
Eye contact	Rinse thoroughly with plenty of water for at least 15 minutes, lifting lower and upper eyelids. Consult a physician.
Skin contact:	Wash skin with soap and water. In the case of skin irritation or allergic reactions see a physician.
Ingestion	Clean mouth with water and drink afterwards plenty of water.
Self-protection of the first aider	No information available.

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

Product Name: TN229BK, TN229XLBK, TN229XXLBK, TN229VBK, TN229RBK, TN229XLBK 2PK, TN219BK, TN219XLBK, TN219XXLBK, TN248BK, TN248XLBK, TN249BK, TN252PBK, TN258BK, TN258XLBK, TN259BK, TN258XLBK 2PK, TN269BK, TN269XLBK, TN269XXLBK, TN279BK, TN279XLBK, TN279XXLBK, TN289BK, TN289XLBK, TN299XLBK, TN299XXLBK toner

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Symptoms Inhalation (dust) : For large quantities: May cause irritation to the respiratory system. Increased difficulty in breathing. Sneezing. Coughing
Eye contact: May cause eye irritation
Skin contact: : Repeated and/or prolonged skin contact may cause irritation
Ingestion: May cause stomach ache. Unlikely route of exposure

Effects of Exposure No information available.

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

Note to physicians Treat symptomatically.

SECTION 5: Firefighting measures

5.1. Extinguishing media

Suitable Extinguishing Media Dry chemical, CO₂, water spray or regular foam.

Unsuitable extinguishing media Do not use water jet.

5.2. Special hazards arising from the substance or mixture

Specific hazards arising from the chemical May form explosive dust clouds in air

5.3. Advice for firefighters

Special protective equipment for fire-fighters Do not use high-pressure water in order to prevent creating a dust cloud and spreading fire dust. Use appropriate respirator for carbon monoxide and carbon dioxide. Wear positive pressure self-contained breathing apparatus (SCBA) during the attack phase of firefighting operations and during cleanup in enclosed or poorly ventilated areas immediately after a fire. Personnel not having suitable respiratory protection must leave the area to prevent significant exposure to toxic combustion gases from any source.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

For non-emergency personnel Avoid generation of dust. Do not breathe dust. A suitable dust mask or dust respirator with filter type A/P may be appropriate.

For emergency responders Avoid generation of dust. Do not breathe dust. A suitable dust mask or dust respirator with

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filter type A/P may be appropriate.

6.2. Environmental precautions

Environmental precautions Prevent entry into waterways, sewers, basements or confined areas.

6.3. Methods and material for containment and cleaning up

Methods for containment Sweep the spilt toner or remove it with a vacuum cleaner and transfer into a sealed container carefully. Sweep slowly to minimize generation of dust during cleanup. If a vacuum cleaner is used, the motor must be rated as dust explosion proof. Potential for very fine particles to be taken into the vacuum only to be passed back into the environment due to pore size in the bag or filter.

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

Prevention of secondary hazards Clean contaminated objects and areas thoroughly observing environmental regulations.

6.4. Reference to other sections

Reference to other sections See section 8 for more information. See section 13 for more information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Advice on safe handling Keep out of the reach of children. Avoid generation of dust. Avoid inhalation of high concentrations of dust. Avoid contact with eyes.

General hygiene considerations Handle in accordance with good industrial hygiene and safety practice.

7.2. Conditions for safe storage, including any incompatibilities

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

7.3. Specific end use(s)

Specific use(s)

These products are black ink in a cartridge for Brother Industries, Ltd. inkjet multifunction devices and fax receivers. The cartridge should be used as supplied by Brother and for use in the products stated.

Risk Management Methods (RMM) The information required is contained in this Safety Data Sheet.

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SECTION 8: Exposure controls/personal protection

8.1. Control parameters

Exposure Limits

Chemical name	European Union	Austria	Belgium	Bulgaria	Croatia
Carbon Black (bound) 1333-86-4	-	-	-	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
PMMA 9011-14-7	-	-	-	TWA: 20.0 mg/m ³	-
Silicon dioxide (amorphous) 112945-52-5	-	TWA: 4 mg/m ³	-	-	-
Silicon Dioxide (amorphous) 7631-86-9	TWA 0.1 mg/m ³ respirable fraction	TWA: 4 mg/m ³	-	TWA: 0.1 mg/m ³	-
Zinc stearate 557-05-1	-	-	-	-	TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 20 mg/m ³
Chemical name	Cyprus	Czech Republic	Denmark	Estonia	Finland
Carbon Black (bound) 1333-86-4	-	-	TWA: 3.5 mg/m ³	TWA: 3 mg/m ³	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
Silicon Dioxide (amorphous) 7631-86-9	-	-	-	TWA: 2 mg/m ³	TWA: 5 mg/m ³ TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³
Zinc stearate 557-05-1	-	-	-	-	TWA: 10 mg/m ³
Chemical name	France	Germany TRGS	Germany DFG	Greece	Hungary
Carbon Black (bound) 1333-86-4	TWA: 3.5 mg/m ³	-	-	-	TWA: 3 mg/m ³
Silicon dioxide (amorphous) 112945-52-5	-	-	TWA: 0.5 mg/m ³ Ceiling / Peak: 4 mg/m ³	-	-
Silicon Dioxide (amorphous) 7631-86-9	-	TWA: 4 mg/m ³	TWA: 0.5 mg/m ³ Ceiling / Peak: 4 mg/m ³	-	-
Zinc stearate 557-05-1	TWA: 10 mg/m ³	-	-	-	-
Chemical name	Ireland	Italy MDLPS	Italy AIDII	Latvia	Lithuania
Carbon Black (bound) 1333-86-4	TWA: 3 mg/m ³ STEL: 15 mg/m ³	-	-	-	-
Silicon Dioxide (amorphous) 7631-86-9	TWA: 6 mg/m ³ TWA: 2.4 mg/m ³ STEL: 18 mg/m ³ STEL: 7.2 mg/m ³	TWA: 0.1 mg/m ³	-	TWA: 1 mg/m ³ TWA: 0.1 mg/m ³	-
Zinc stearate 557-05-1	TWA: 10 mg/m ³ TWA: 4 mg/m ³	-	-	-	-

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	STEL: 12 mg/m ³ STEL: 20 mg/m ³ STEL: 30 mg/m ³				
Chemical name	Luxembourg	Malta	Netherlands	Norway	Poland
Carbon Black (bound) 1333-86-4	-	-	-	TWA: 3.5 mg/m ³ STEL: 7 mg/m ³	TWA: 4 mg/m ³
Silicon Dioxide (amorphous) 7631-86-9	-	-	TWA: 0.75 mg/m ³	TWA: 1.5 mg/m ³ STEL: 3 mg/m ³	-
Chemical name	Portugal	Romania	Slovakia	Slovenia	Spain
Carbon Black (bound) 1333-86-4	TWA: 3 mg/m ³	-	TWA: 2 mg/m ³ TWA: 10 mg/m ³	-	TWA: 3.5 mg/m ³
Silicon Dioxide (amorphous) 7631-86-9	TWA: 0.05 mg/m ³ TWA: 0.1 mg/m ³	-	-	TWA: 4 mg/m ³ TWA: 0.1 mg/m ³	-
Zinc stearate 557-05-1	TWA: 10 mg/m ³	TWA: 10 mg/m ³	-	-	TWA: 10 mg/m ³
Chemical name	Sweden		Switzerland		United Kingdom
Carbon Black (bound) 1333-86-4	-		-		TWA: 3.5 mg/m ³ STEL: 7 mg/m ³
Silicon Dioxide (amorphous) 7631-86-9	-		TWA: 4 mg/m ³		TWA: 6 mg/m ³ TWA: 2.4 mg/m ³ TWA: 0.1 mg/m ³ STEL: 18 mg/m ³ STEL: 7.2 mg/m ³
Zinc stearate 557-05-1	-		TWA: 3 mg/m ³		TWA: 10 mg/m ³ TWA: 4 mg/m ³ STEL: 20 mg/m ³ STEL: 12 mg/m ³

Biological occupational exposure limits This product, as supplied, does not contain any hazardous materials with biological limits established by the region specific regulatory bodies.

Derived No Effect Level (DNEL) - Workers No information available

Derived No Effect Level (DNEL) - General Public No information available.

Predicted No Effect Concentration (PNEC) No information available.

8.2. Exposure controls

Appropriate engineering controls Good general ventilation should be sufficient under normal use.

Personal protective equipment Not normally required. For use other than in normal operating procedures (such as in the

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event of large spill), the following should be applied:

Eye/face protection	Safety goggles
Hand protection	Protective gloves
Skin and body protection	If there is a risk of contact:, Apron, Boots
Respiratory protection	Use appropriate respiratory protection.
Thermal hazards	No information available.
General hygiene considerations	Handle in accordance with good industrial hygiene and safety practice.
Environmental exposure controls	Avoid release to the environment.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Physical state	Powder
Color	black
Odor	Odorless.
Odor threshold	No information available

<u>Property</u>	<u>Values</u>	<u>Remarks • Method</u>
Melting point / freezing point	110 °C	None known
Initial boiling point and boiling range	No information available	None known
Flammability	No information available	None known
Flammability Limit in Air		None known
Upper flammability or explosive limits	No information available	
Lower flammability or explosive limits	No information available	
Flash point	No information available	None known
Autoignition temperature	No information available	None known
Decomposition temperature	No information available	None known
pH	No information available	None known
pH (as aqueous solution)	No information available	None known
Kinematic viscosity	No information available	None known
Dynamic viscosity	No information available	None known
Water solubility	Insoluble in water	
Solubility(ies)	No data available	None known
Partition coefficient	No information available	None known
Vapor pressure	No information available	None known

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Relative density	1.15	None known
Bulk density	No information available	
Liquid Density	No information available	
Relative vapor density	No information available	None known
Particle characteristics		
Particle Size	No information available	
Particle Size Distribution	No information available	

9.2. Other information

9.2.1. Information with regard to physical hazard classes

Explosives

Explosive properties

Explosive limits of toner particles suspended in air approximately equal to that of coal dust

Oxidizing properties

No information available

9.2.2. Other safety characteristics

No information available None known

SECTION 10: Stability and reactivity

10.1. Reactivity

Reactivity No information available.

10.2. Chemical stability

Stability Stable under normal conditions.

Explosion data

Sensitivity to mechanical impact None.

Sensitivity to static discharge None.

10.3. Possibility of hazardous reactions

Possibility of hazardous reactions None under normal processing.

10.4. Conditions to avoid

Conditions to avoid Keep away from heat. Avoid friction, sparks, or other means of ignition.

10.5. Incompatible materials

Incompatible materials Strong oxidizing agents

10.6. Hazardous decomposition products

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Hazardous decomposition products Carbon monoxide. Carbon dioxide (CO₂). Nitrogen oxides (NO_x).

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Information on likely routes of exposure

Product Information

Inhalation	Acute LC ₅₀ > 5.94 mg/l (4-hr) (OECD 436 method)
Eye contact	No information available.
Skin contact	No information available.
Ingestion	Acute LD ₅₀ > 2000 mg/kg (OECD 423 method)

Symptoms related to the physical, chemical and toxicological characteristics

Symptoms No information available.

Acute toxicity

Numerical measures of toxicity

89.3 % of the mixture consists of ingredient(s) of unknown acute oral toxicity.

99.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (gas).

99.1 % of the mixture consists of ingredient(s) of unknown acute inhalation toxicity (vapor).

Component Information

Chemical name	Oral LD50	Dermal LD50	Inhalation LC50
Carbon Black (bound)	> 15400 mg/kg	-	> 4.6 mg/m ³ 4 h
Silicon dioxide (amorphous)	= 3160 mg/kg	-	-
Silicon Dioxide (amorphous)	= 7900 mg/kg (Rat)	> 5000 mg/kg (Rabbit)	> 58.8 mg/L (Rat) 4 h
Zinc stearate	> 10 g/kg	> 2000 mg/kg	> 200 mg/L 1 h

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Skin corrosion/irritation Non-irritant (OECD 404 method)

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Serious eye damage/eye irritation Non-irritant (OECD 405 method)

Respiratory or skin sensitization It is not a skin sensitizer (OECD 429 method)

Germ cell mutagenicity AMES test : Negative. (OECD 471 method).

Carcinogenicity Carbon Black: In 1996, the IARC re-evaluated carbon black as a Group 2B carcinogen (possible human carcinogen). This classification is given to chemicals, for which there is inadequate human evidence, but sufficient animal evidence on which to base an opinion of carcinogenicity. The classification is based upon the development of lung tumors in rats receiving chronic inhalation exposures to free carbon black at levels that induce particle overload of the lung. Studies performed in animal models other than rats did not show any association between carbon black and lung tumors. Moreover, a two-year cancer bioassay using a typical toner preparation containing carbon black demonstrated no association between toner exposure and tumor development in rats

Reproductive toxicity No information available.

STOT - single exposure No information available.

STOT - repeated exposure No information available.

Aspiration hazard No information available.

11.2. Information on other hazards

11.2.1. Endocrine disrupting properties

Endocrine disrupting properties No information available.

11.2.2. Other information

Other adverse effects No information available.

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SECTION 12: Ecological information

12.1. Toxicity

Ecotoxicity

Unknown aquatic toxicity Contains 0.4 % of components with unknown hazards to the aquatic environment.

Chemical name	Algae/aquatic plants	Fish	Toxicity to microorganisms	Crustacea
Silicon Dioxide (amorphous)	EC50: =440mg/L (72h, Pseudokirchneriella subcapitata)	LC50: =5000mg/L (96h, Brachydanio rerio)	-	EC50: =7600mg/L (48h, Ceriodaphnia dubia)

12.2. Persistence and degradability

Persistence and degradability No information available.

12.3. Bioaccumulative potential

Bioaccumulation There is no data for this product.

Component Information

Chemical name	Partition coefficient
Zinc stearate	4.64

12.4. Mobility in soil

Mobility in soil No information available.

Mobility No information available.

12.5. Results of PBT and vPvB assessment

PBT and vPvB assessment This product contains no substance considered to be persistent, bioaccumulating nor toxic (PBT).
This product contains no substance considered to be very persistent nor very bioaccumulating (vPvB).

12.6. Endocrine disrupting properties

Endocrine disrupting properties No information available.

12.7. Other adverse effects

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No information available.

SECTION 13: Disposal considerations

13.1. Waste treatment methods

Waste from residues/unused products	Do not put toner or toner cartridges into a fire, this can cause fire to spread with the risk of causing burn injuries. Shred toner cartridges in a dust/explosion controlled environment. Finely dispersed particles may form explosive mixtures in the air. Dispose of in accordance with Federal, State, and local regulations.
Contaminated packaging	Do not reuse empty containers.

SECTION 14: Transport information

IATA

14.1 UN number or ID 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	Not applicable
14.6 Special precautions for user	
Special Provisions	None

IMDG

14.1 UN number or ID 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	Not applicable
14.6 Special precautions for user	
Special Provisions	None
14.7 Maritime transport in bulk according to IMO instruments	No information available

RID

14.1 UN number or ID 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	Not applicable
14.6 Special precautions for user	
Special Provisions	None

ADR

14.1 UN number or ID number	Not regulated
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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	Not applicable
14.6 Special precautions for user	
Special Provisions	None

SECTION 15: Regulatory information

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

National Regulations

France

Occupational Illnesses (R-463-3, France)

Chemical name	French RG number
Carbon Black (bound) - 1333-86-4	RG 16, RG 16bis
Silicon Dioxide (amorphous) - 7631-86-9	RG 25

European Union

Take note of Directive 98/24/EC on the protection of the health and safety of workers from the risks related to chemical agents at work.

Authorizations and/or restrictions on use:

This product contains one or more substance(s) subject to restriction (Regulation (EC) No. 1907/2006 (REACH), Annex XVII)

Chemical name	Restricted substance per REACH Annex XVII	Substance subject to authorization per REACH Annex XIV
Carbon Black (bound) - 1333-86-4	75.	-

Persistent Organic Pollutants

Not applicable

Ozone-depleting substances (ODS) regulation (EC) 1005/2009

Not applicable

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International Inventories

TSCA	Complies
DSL/NDSL	Complies
EINECS/ELINCS	Complies
ENCS	Complies
IECSC	Complies
KECL	Complies
PICCS	Complies
AICS	Complies
NZIoC	Complies

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 Chemical Substances/European 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
- NZIoC** - New Zealand Inventory of Chemicals

15.2. Chemical safety assessment

Chemical Safety Report No chemical safety assessment has been carried out

SECTION 16: Other information

Key or legend to abbreviations and acronyms used in the safety data sheet

Legend

- SVHC: Substances of Very High Concern for Authorization:
- PBT: Persistent, Bioaccumulative, and Toxic (PBT) Chemicals
- vPvB: Very Persistent and very Bioaccumulative (vPvB) Chemicals

Legend SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

TWA	TWA (time-weighted average)	STEL	STEL (Short Term Exposure Limit)
Ceiling	Maximum limit value	*	Skin designation
+	Sensitizers		

Classification procedure	
Classification according to Regulation (EC) No. 1272/2008 [CLP]	Method Used
Acute oral toxicity	Calculation method
Acute dermal toxicity	On basis of test data
Acute inhalation toxicity - gas	Calculation method

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Acute inhalation toxicity - vapor	Calculation method
Acute inhalation toxicity - dust/mist	On basis of test data
Skin corrosion/irritation	On basis of test data
Serious eye damage/eye irritation	Calculation method
Respiratory sensitization	Calculation method
Skin sensitization	On basis of test data
Mutagenicity	Calculation method
Carcinogenicity	Calculation method
Reproductive toxicity	Calculation method
STOT - single exposure	Calculation method
STOT - repeated exposure	Calculation method
Acute aquatic toxicity	Calculation method
Chronic aquatic toxicity	Calculation method
Aspiration hazard	Calculation method
Ozone	Calculation method

Key literature references and sources for data used to compile the SDS

Agency for Toxic Substances and Disease Registry (ATSDR)
 U.S. Environmental Protection Agency ChemView Database
 European Food Safety Authority (EFSA)
 European Chemicals Agency (ECHA) Committee for Risk Assessment (ECHA_RAC)
 European Chemicals Agency (ECHA) (ECHA_API)
 EPA (Environmental Protection Agency)
 Acute Exposure Guideline Level(s) (AEGL(s))
 U.S. Environmental Protection Agency Federal Insecticide, Fungicide, and Rodenticide Act
 U.S. Environmental Protection Agency High Production Volume Chemicals
 Food Research Journal
 Hazardous Substance Database
 International Uniform Chemical Information Database (IUCLID)
 National Institute of Technology and Evaluation (NITE)
 Australia National Industrial Chemicals Notification and Assessment Scheme (NICNAS)
 NIOSH (National Institute for Occupational Safety and Health)
 National Library of Medicine's ChemID Plus (NLM CIP)
 National Library of Medicine's PubMed database (NLM PUBMED)
 National Toxicology Program (NTP)
 New Zealand's Chemical Classification and Information Database (CCID)
 Organization for Economic Co-operation and Development Environment, Health, and Safety Publications
 Organization for Economic Co-operation and Development High Production Volume Chemicals Program
 Organization for Economic Co-operation and Development Screening Information Data Set
 World Health Organization

Issuing Date 13-Sep-2021

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Safety Data Sheet according to Regulation (EC) No. 1907/2006 (REACH)

Disclaimer

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information given is designed only as a guidance for safe handling, use, processing, storage,

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transportation, disposal and release and is not to be considered a warranty or quality specification. The 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, unless specified in the text.

End of Safety Data Sheet