acc. to Safe Work Australia - Code of Practice

#### Cobalt(II) nitrate hexahydrate ROTI®METIC 99,999 % (5N)



Replaces version of: 2022-02-09

Version: (GHS 4)

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

#### **Product identifier** 1.1

Identification of the substance Cobalt(II) nitrate hexahydrate ROTI®METIC

99,999 % (5N)

Article number 5291

CAS number 10026-22-9

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

Relevant identified uses: Laboratory chemical

Laboratory and analytical use

Uses advised against: Do not use for products which come into contact

with foodstuffs. Do not use for private purposes (household). Food, drink and animal feeding-

stuffs.

#### Details of the supplier of the safety data sheet 1.3

Carl Roth GmbH + Co. KG Schoemperlenstr, 3-5 D-76185 Karlsruhe Germany

Telephone:+49 (0) 721 - 56 06 0 **Telefax:** +49 (0) 721 - 56 06 149 e-mail: sicherheit@carlroth.de Website: www.carlroth.de

Competent person responsible for the safety data 
Department Health, Safety and Environment

sheet:

e-mail (competent person): sicherheit@carlroth.de

#### 1.4 **Emergency telephone number**

Name	Street	Postal code/city	Telephone	Website
NSW Poisons Information Centre Childrens Hospital	Hawkesbury Road	2145 West- mead, NSW	131126	

#### **SECTION 2: Hazards identification**

#### 2.1 Classification of the substance or mixture

#### Classification acc. to GHS

Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
2.14	Oxidising solid	2	Ox. Sol. 2	H272
3.10	Acute toxicity (oral)	4	Acute Tox. 4	H302
3.3	Serious eye damage/eye irritation	1	Eye Dam. 1	H318
3.4R	Respiratory sensitisation	1	Resp. Sens. 1	H334

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Section	Hazard class	Cat- egory	Hazard class and category	Hazard statement
3.45	Skin sensitisation	1	Skin Sens. 1	H317
3.5	Germ cell mutagenicity	2	Muta. 2	H341
3.6	Carcinogenicity	1B	Carc. 1B	H350i
3.7	Reproductive toxicity	1B	Repr. 1B	H360F

For full text of abbreviations: see SECTION 16

#### 2.2 Label elements

#### Labelling

Signal word Danger

#### **Pictograms**

GHS03, GHS05, GHS07, GHS08









#### **Hazard statements**

H272	May intensify fire; oxidiser
H302	Harmful if swallowed
H317	May cause an allergic skin reaction
H318	Causes serious eye damage
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled
H341	Suspected of causing genetic defects
H350i	May cause cancer by inhalation
H360F	May damage fertility

#### **Precautionary statements**

#### **Precautionary statements - prevention**

P210	Keep away from heat/sparks/open flames/hot surfaces No smoking
P261	Avoid breathing dust/fume/gas/mist/vapours/spray

P280 Wear eye protection/face protection

#### **Precautionary statements - response**

P302+P352 IF ON SKIN: Wash with plenty of soap and water

P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact

lenses, if present and easy to do. Continue rinsing

P370+P378 In case of fire: Use sand, carbon dioxide or powder extinguisher for extinction

For professional users only

#### 2.3 Other hazards

#### Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### **Endocrine disrupting properties**

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq$  0,1%.

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## **SECTION 3: Composition/information on ingredients**

#### 3.1 Substances

Name of substance Cobalt(II) nitrate hexahydrate

Molecular formula  $Co(NO_3)_2 \cdot 6 H_2O$ 

Molar mass  $291 \, {}^g/_{mol}$  CAS No 10026-22-9

#### **SECTION 4: First aid measures**

#### 4.1 Description of first aid measures



#### **General notes**

Take off contaminated clothing.

#### Following inhalation

Provide fresh air. In all cases of doubt, or when symptoms persist, seek medical advice.

#### **Following skin contact**

Rinse skin with water/shower. After contact with skin, wash immediately with plenty of water. In case of skin reactions, consult a physician.

#### Following eye contact

In case of contact with eyes flush immediately with plenty of flowing water for 10 to 15 minutes holding eyelids apart and consult an ophthalmologist.

#### Following ingestion

Rinse mouth with water (only if the person is conscious). In case of accident or unwellness, seek medical advice immediately (show directions for use or safety data sheet if possible).

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

Vomiting, Risk of blindness, Risk of serious damage to eyes, Allergic reactions, Cough, Dyspnoea

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

none

## **SECTION 5: Firefighting measures**

#### 5.1 Extinguishing media



#### Suitable extinguishing media

co-ordinate firefighting measures to the fire surroundings! water, foam, alcohol resistant foam, dry extinguishing powder, ABC-powder

#### Unsuitable extinguishing media

water jet

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#### 5.2 Special hazards arising from the substance or mixture

Oxidising property. Non-combustible.

#### **Hazardous combustion products**

In case of fire may be liberated: Nitrogen oxides (NOx)

#### 5.3 Advice for firefighters

In case of fire and/or explosion do not breathe fumes. Fight fire with normal precautions from a reasonable distance. Wear self-contained breathing apparatus.

#### **SECTION 6: Accidental release measures**

#### 6.1 Personal precautions, protective equipment and emergency procedures



#### For non-emergency personnel

Use personal protective equipment as required. Avoid contact with skin, eyes and clothes. Do not breathe dust.

#### 6.2 Environmental precautions

Keep away from drains, surface and ground water. Retain contaminated washing water and dispose of it. If substance has entered a water course or sewer, inform the responsible authority.

#### 6.3 Methods and material for containment and cleaning up

#### Advice on how to contain a spill

Covering of drains. Take up mechanically.

#### Advice on how to clean up a spill

Take up mechanically. Control of dust.

#### Other information relating to spills and releases

Place in appropriate containers for disposal. Ventilate affected area.

#### 6.4 Reference to other sections

Hazardous combustion products: see section 5. Personal protective equipment: see section 8. Incompatible materials: see section 10. Disposal considerations: see section 13.

## **SECTION 7: Handling and storage**

#### 7.1 Precautions for safe handling

Use extractor hood (laboratory). Provision of sufficient ventilation. Avoid exposure. Avoid dust formation.

#### Measures to prevent fire as well as aerosol and dust generation

Removal of dust deposits. Keep away from combustible material.

#### Advice on general occupational hygiene

Wash hands before breaks and after work. Keep away from food, drink and animal feedingstuffs.

#### 7.2 Conditions for safe storage, including any incompatibilities

Store in a dry place. Keep container tightly closed. Hygroscopic solid.

#### **Incompatible substances or mixtures**

Observe hints for combined storage. Keep/store away from clothing/combustible materials. Take any precaution to avoid mixing with combustibles.

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#### Protect against external exposure, such as

high temperatures, humidity, contact with air/oxygen

#### Consideration of other advice:

#### **Ventilation requirements**

Use local and general ventilation.

#### Specific designs for storage rooms or vessels

Recommended storage temperature: 15 - 25 °C

#### 7.3 Specific end use(s)

No information available.

## **SECTION 8: Exposure controls/personal protection**

#### 8.1 **Control parameters**

#### **National limit values**

#### **Occupational exposure limit values (Workplace Exposure Limits)**

Coun try	Name of agent	CAS No	Identifi- er	TWA [mg/ m³]	STEL [mg/ m³]	Ceil- ing-C [mg/ m³]	Nota- tion	Source
AU	nuisance dusts		WES	10			i	WES

#### Notation

Ceiling value is a limit value above which exposure should not occur Inhalable fraction Ceiling-C

Short-term exposure limit: a limit value above which exposure should not occur and which is related to a 15-minute period (unless otherwise specified)
Time-weighted average (long-term exposure limit): measured or calculated in relation to a reference period of 8 STEL

TWA

hours time-weighted average (unless otherwise specified)

#### **Human health values**

Relevant DNI	Ls and other t	hreshold levels			
Endpoint Threshold level		Protection goal, route of exposure	Used in	Exposure time	
DNEL	124.2 μg/m³	human, inhalatory	worker (industry)	chronic - local effects	

#### **Environmental values**

## **Relevant PNECs and other threshold levels**

End- point	Threshold level	Organism	Environmental com- partment	Exposure time
PNEC	0.62 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	freshwater	short-term (single instance)
PNEC	2.36 <sup>µg</sup> / <sub>l</sub>	aquatic organisms	marine water	short-term (single instance)
PNEC	0.37 <sup>mg</sup> / <sub>l</sub>	aquatic organisms	sewage treatment plant (STP)	short-term (single instance)
PNEC	53.8 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	freshwater sediment	short-term (single instance)
PNEC	69.8 <sup>mg</sup> / <sub>kg</sub>	aquatic organisms	marine sediment	short-term (single instance)
PNEC	10.9 <sup>mg</sup> / <sub>kg</sub>	terrestrial organisms	soil	short-term (single instance)

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#### 8.2 Exposure controls

#### Individual protection measures (personal protective equipment)

#### **Eye/face protection**





Use safety goggle with side protection.

#### Skin protection





#### hand protection

Wear suitable gloves. Chemical protection gloves are suitable, which are tested according to EN 374. For special purposes, it is recommended to check the resistance to chemicals of the protective gloves mentioned above together with the supplier of these gloves. The times are approximate values from measurements at 22 ° C and permanent contact. Increased temperatures due to heated substances, body heat etc. and a reduction of the effective layer thickness by stretching can lead to a considerable reduction of the breakthrough time. If in doubt, contact manufacturer. At an approx. 1.5 times larger / smaller layer thickness, the respective breakthrough time is doubled / halved. The data apply only to the pure substance. When transferred to substance mixtures, they may only be considered as a guide.

#### type of material

NBR (Nitrile rubber)

#### material thickness

>0,11 mm

#### · breakthrough times of the glove material

>480 minutes (permeation: level 6)

#### other protection measures

Take recovery periods for skin regeneration. Preventive skin protection (barrier creams/ointments) is recommended.

#### **Respiratory protection**





Respiratory protection necessary at: Dust formation. Particulate filter device (EN 143). P2 (filters at least 94 % of airborne particles, colour code: White).

#### **Environmental exposure controls**

Keep away from drains, surface and ground water.

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## **SECTION 9: Physical and chemical properties**

#### 9.1 Information on basic physical and chemical properties

Physical state solid

Form crystalline Colour red brown

Odour faintly perceptible

Melting point/freezing point >55 °C (Release of crystal water)

Boiling point or initial boiling point and boiling not determined

range

Flammability non-combustible
Lower and upper explosion limit not determined
Flash point not applicable
Auto-ignition temperature not determined
Decomposition temperature 100 – 105 °C

pH (value) 4 (in aqueous solution: 100 g/l, 20 °C)

Kinematic viscosity not relevant

Solubility(ies)

Water solubility  $>669.6 \, ^{9}/_{1}$  at 20 °C (ECHA)

Partition coefficient

Partition coefficient n-octanol/water (log value): not relevant (inorganic)

Vapour pressure not determined

Density and/or relative density

Density  $1.87 \, \mathrm{g}_{\mathrm{cm}^3}$ 

Relative vapour density Information on this property is not available.

Bulk density  $\sim 800 \, \mathrm{kg/m^3}$ 

Particle characteristics No data available.

Other safety parameters

Oxidising properties oxidiser

9.2 Other information

Information with regard to physical hazard There is no additional information.

classes:

Other safety characteristics: There is no additional information.

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## **SECTION 10: Stability and reactivity**

#### 10.1 Reactivity

It's a reactive substance. Oxidising property.

#### 10.2 Chemical stability

Moisture-sensitive. Hygroscopic solid.

#### 10.3 Possibility of hazardous reactions

Violent reaction with: Reducing agents

#### 10.4 Conditions to avoid

Keep away from heat. Decompostion takes place from temperatures above: 100 - 105 °C. Protect from moisture.

#### 10.5 Incompatible materials

combustible materials

#### 10.6 Hazardous decomposition products

Hazardous combustion products: see section 5.

#### **SECTION 11: Toxicological information**

#### 11.1 Information on toxicological effects

#### Classification acc. to GHS

#### **Acute toxicity**

Harmful if swallowed.

		•	• .
\CII+A	+01	V10	
Acute		K I L	.II.V

Exposure route	Endpoint	Value	Species	Method	Source
oral	LD50	434 <sup>mg</sup> / <sub>kg</sub>	rat	anhydrous	ECHA

#### Skin corrosion/irritation

Shall not be classified as corrosive/irritant to skin.

#### Serious eye damage/eye irritation

Causes serious eye damage.

#### Respiratory or skin sensitisation

May cause allergy or asthma symptoms or breathing difficulties if inhaled. May cause an allergic skin reaction.

#### Germ cell mutagenicity

Suspected of causing genetic defects.

#### Carcinogenicity

May cause cancer by inhalation.

#### Reproductive toxicity

May damage fertility.

#### Specific target organ toxicity - single exposure

Shall not be classified as a specific target organ toxicant (single exposure).

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#### Specific target organ toxicity - repeated exposure

Shall not be classified as a specific target organ toxicant (repeated exposure).

#### **Aspiration hazard**

Shall not be classified as presenting an aspiration hazard.

#### Symptoms related to the physical, chemical and toxicological characteristics

#### If swallowed

diarrhoea, vomiting, Spasms

#### • If in eyes

Causes serious eye damage, risk of blindness

#### • If inhaled

May produce an allergic reaction, cough, Dyspnoea

#### • If on skin

May produce an allergic reaction, pruritis, localised redness

#### Other information

Other adverse effects: Blood pressure drop, Irreversible damage to internal organs: Kidney, Heart, Pancreas

#### 11.2 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0.1\%$ .

## **SECTION 12: Ecological information**

#### 12.1 Toxicity

Very toxic to aquatic life with long lasting effects.

#### Aquatic toxicity (acute)

Endpoint	Value	Species	Source	Exposure time
LC50	1.512 <sup>mg</sup> / <sub>l</sub>	fish	ECHA	96 h
EC50	2,618 <sup>µg</sup> / <sub>l</sub>	aquatic invertebrates	ECHA	48 h
ErC50	71,314 <sup>µg</sup> / <sub>l</sub>	algae	ECHA	96 h

#### **Aquatic toxicity (chronic)**

Endpoint	Value	Species	Source	Exposure time
EC50	82.2 <sup>µg</sup> / <sub>l</sub>	aquatic invertebrates	ECHA	21 d

#### 12.2 Persistence and degradability

Data are not available.

#### 12.3 Bioaccumulative potential

Does not significantly accumulate in organisms.

BCF	23 (ECHA)
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#### 12.4 Mobility in soil

Data are not available.

#### 12.5 Results of PBT and vPvB assessment

According to the results of its assessment, this substance is not a PBT or a vPvB.

#### 12.6 Endocrine disrupting properties

Does not contain an endocrine disruptor (ED) at a concentration of  $\geq 0.1\%$ .

#### 12.7 Other adverse effects

Data are not available.

#### **SECTION 13: Disposal considerations**

#### 13.1 Waste treatment methods



This material and its container must be disposed of as hazardous waste. Dispose of contents/container in accordance with local/regional/national/international regulations.

#### Sewage disposal-relevant information

Do not empty into drains.

#### Waste treatment of containers/packagings

Only packagings which are approved (e.g. acc. to the Dangerous Goods Regulations) may be used. Handle contaminated packages in the same way as the substance itself. Completely emptied packages can be recycled.

#### **Relevant provisions relating to waste(Basel Convention)**

#### Properties of waste which render it hazardous

**H5.1** Oxidizing

#### 13.3 Remarks

Waste shall be separated into the categories that can be handled separately by the local or national waste management facilities. Please consider the relevant national or regional provisions. Non-contaminated packages may be recycled.

#### **SECTION 14: Transport information**

#### 14.1 UN number

UN 1477
IMDG-Code UN 1477
ICAO-TI UN 1477

#### 14.2 UN proper shipping name

UN RTDGNITRATES, INORGANIC, N.O.S.IMDG-CodeNITRATES, INORGANIC, N.O.S.IMDG-CodeNitrates, inorganic, n.e.

ICAO-TI Nitrates, inorganic, n.o.s.

#### 14.3 Transport hazard class(es)

UN RTDG 5.1

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IMDG-Code 5.1 ICAO-TI 5.1

14.4 Packing group

UN RTDG II
IMDG-Code II
ICAO-TI II

**14.5 Environmental hazards** hazardous to the aquatic environment

14.6 Special precautions for user

There is no additional information.

14.7 Transport in bulk according to IMO instruments

The cargo is not intended to be carried in bulk.

14.8 <u>Information for each of the UN Model Regulations</u>

Transport informationNational regulationsAdditional information(UN RTDG)

UN number 1477
Class 5.1
Environmental hazards Yes

Hazardous to the aquatic environment

Packing group II

Danger label(s) 5.1

Fish and tree



Special provisions (SP)

**UN RTDG** 

Excepted quantities (EQ) E2

ŪN RTDG

Limited quantities (LQ) 1 kg

UN RTDG

**Emergency Action Code** 1Y

International Maritime Dangerous Goods Code (IMDG) - Additional information

Proper shipping name NITRATES, INORGANIC, N.O.S.

Particulars in the shipper's declaration UN1477, NITRATES, INORGANIC, N.O.S., 5.1, II,

MARINE POLLUTANT

Marine pollutant yes (hazardous to the aquatic environment)

Danger label(s) 5.1, "Fish and tree"



Special provisions (SP)

Excepted quantities (EQ) E2

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Limited quantities (LQ) 1 kg

EmS F-A, S-Q

Stowage category A

#### International Civil Aviation Organization (ICAO-IATA/DGR) - Additional information

Proper shipping name Nitrates, inorganic, n.o.s.

Particulars in the shipper's declaration UN1477, Nitrates, inorganic, n.o.s., 5.1, II

Environmental hazards yes (hazardous to the aquatic environment)

Danger label(s) 5.1



Special provisions (SP)

Excepted quantities (EQ)

Limited quantities (LQ)

2,5 kg

#### **SECTION 15: Regulatory information**

# **15.1** Safety, health and environmental regulations/legislation specific for the substance or mixture There is no additional information.

#### National regulations(Australia)

#### Australian Inventory of Chemical Substances(AICS)

Substance is listed.

#### Other information

Directive 94/33/EC on the protection of young people at work. Observe employment restrictions under the Maternity Protection Directive (92/85/EEC) for expectant or nursing mothers.

#### **National inventories**

Country	Inventory	Status
AU	AIIC	substance is listed
CA	DSL	substance is listed
CN	IECSC	substance is listed
EU	ECSI	substance is listed
EU	REACH Reg.	substance is listed
JP	CSCL-ENCS	substance is listed
KR	KECI	substance is listed
MX	INSQ	substance is listed
NZ	NZIoC	substance is listed
PH	PICCS	substance is listed
TW	TCSI	substance is listed
US	TSCA	substance is listed (ACTIVE)

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Country	Inventory	Status
VN	NCI	substance is listed

Legend

Australian Inventory of Industrial Chemicals
List of Existing and New Chemical Substances (CSCL-ENCS)
Domestic Substances List (DSL)
EC Substance Inventory (EINECS, ELINCS, NLP)
Inventory of Existing Chemical Substances Produced or Imported in China
National Inventory of Chemical Substances
Korea Existing Chemical Substances AIIC CSCL-ENCS DSL ECSI IECSC

INSQ KECI Korea Existing Chemicals Inventory
NCI National Chemical Inventory
NZIOC New Zealand Inventory of Chemicals
PICCS Philippine Inventory of Chemicals and Chemical Substances (PICCS)
REACH Reg. REACH registered substances

TCSI Taiwan Chemical Substance Inventory

**TSCA Toxic Substance Control Act** 

#### 15.2 Chemical Safety Assessment

No Chemical Safety Assessment has been carried out for this substance.

#### **SECTION 16: Other information**

#### Indication of changes (revised safety data sheet)

Section	Former entry (text/value)	Actual entry (text/value)	Safety- relev- ant
2.3		Endocrine disrupting properties: Does not contain an endocrine disruptor (ED) at a concentration of ≥ 0,1%.	yes
14.8		Emergency Action Code: 1Y	yes
15.1		National inventories: change in the listing (table)	yes

#### **Abbreviations and acronyms**

Abbr.	Descriptions of used abbreviations
BCF	Bioconcentration factor
CAS	Chemical Abstracts Service (service that maintains the most comprehensive list of chemical substances)
Ceiling-C	Ceiling value
DGR	Dangerous Goods Regulations (see IATA/DGR)
DNEL	Derived No-Effect Level
EC50	Effective Concentration 50 %. The EC50 corresponds to the concentration of a tested substance causing 50 % changes in response (e.g. on growth) during a specified time interval
ED	Endocrine disruptor
EINECS	European Inventory of Existing Commercial Chemical Substances
ELINCS	European List of Notified Chemical Substances
EmS	Emergency Schedule
ErC50	≡ EC50: in this method, that concentration of test substance which results in a 50 % reduction in either growth (EbC50) or growth rate (ErC50) relative to the control
GHS	"Globally Harmonized System of Classification and Labelling of Chemicals" developed by the United Nations

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Abbr.	Descriptions of used abbreviations
IATA	International Air Transport Association
IATA/DGR	Dangerous Goods Regulations (DGR) for the air transport (IATA)
ICAO	International Civil Aviation Organization
ICAO-TI	Technical instructions for the safe transport of dangerous goods by air
IMDG	International Maritime Dangerous Goods Code
IMDG-Code	International Maritime Dangerous Goods Code
LC50	Lethal Concentration 50%: the LC50 corresponds to the concentration of a tested substance causing 50 % lethality during a specified time interval
LD50	Lethal Dose 50 %: the LD50 corresponds to the dose of a tested substance causing 50 % lethality during a specified time interval
NLP	No-Longer Polymer
PBT	Persistent, Bioaccumulative and Toxic
PNEC	Predicted No-Effect Concentration
STEL	Short-term exposure limit
TWA	Time-weighted average
UN RTDG	UN Recommendations on the Transport of Dangerous Good
vPvB	Very Persistent and very Bioaccumulative
WES	Safe Work Australia: Workplace exposure standards for airborne contaminants

#### Key literature references and sources for data

Safe Work Australia's Code of Practice for Labelling of Workplace Hazardous Chemicals (under WHS Regulations).

UN Recommendations on the Transport of Dangerous Good. International Maritime Dangerous Goods Code (IMDG). Dangerous Goods Regulations (DGR) for the air transport (IATA).

#### List of relevant phrases (code and full text as stated in section 2 and 3)

Code	Text
H272	May intensify fire; oxidiser.
H302	Harmful if swallowed.
H317	May cause an allergic skin reaction.
H318	Causes serious eye damage.
H334	May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H341	Suspected of causing genetic defects.
H350i	May cause cancer by inhalation.
H360F	May damage fertility.

#### **Disclaimer**

This information is based upon the present state of our knowledge. This SDS has been compiled and is solely intended for this product.

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