Octocure ZDE-50

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

1.1 Product identifier

Trade name

Octocure ZDE-50

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

Relevant identified uses of the substance or mixture
Industrial raw material

Uses advised against
No data available.

1.3 Details of the supplier of the safety data sheet

Address
Tiarco Chemical Europe GmbH
Am Gut Baarking 12
46395 Bocholt

Telephone no.	+49 2871 23476-0
Fax no.	+49 2871 23476-44
e-mail	europeansales@trcc.com

Advice on Safety Data Sheet
sdb_info@umco.de

1.4 Emergency telephone number

For medical advice (in German and English):
+49 (0)551 192 40 (Giftinformationszentrum Nord)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification in accordance with Regulation (EC) No 1272/2008 (CLP)
Aquatic Acute 1; H400
Aquatic Chronic 1; H410
Eye Irrit. 2; H319
Skin Irrit. 2; H315
Skin Sens. 1; H317
STOT SE 3; H335

Classification information
This product is assessed and classified using the methods and criteria below referred to in Article 9 of Regulation (EC) n° 1272/2008:
Physical hazards: determined through assessment data based on the methods or standards referred to in part 2 of Annex I to CLP
Health hazards and environmental hazards: determined through toxicological and ecotoxicological assessment data based on the methods or standards referred to in Part 3, 4 and 5 of Annex I to CLP.

2.2 Label elements

Labelling according to Regulation (EC) No 1272/2008 (CLP Regulation)

Hazard pictograms


GHS07


GHS09

Signal word
Warning

Hazardous component(s) to be indicated on label:
zinc bis(diethyldithiocarbamate)

Hazard statement(s)

H315	Causes skin irritation.
H317	May cause an allergic skin reaction.

H319	Causes serious eye irritation.
H335	May cause respiratory irritation.
H410	Very toxic to aquatic life with long lasting effects.

Precautionary statement(s)

P261	Avoid breathing dust/fume/gas/mist/vapours/spray.
P280	Wear protective gloves/eye protection.
P501	Dispose of contents/container to a facility in accordance with local and national regulations.

2.3 Other hazards

No data available.

SECTION 3: Composition/information on ingredients

3.1 Substances

Chemical characterization

Formula C10H20N2S4Zn

3.2 Mixtures

Hazardous ingredients

No	Substance name		Additional information	
	CAS / EC / Index / REACH no	Classification (EC) 1272/2008 (CLP)	Concentration	%
1	**zinc bis(diethyldithiocarbamate)**			
	14324-55-1 238-270-9 006-082-00-4 01-2119683928-16	Acute Tox. 4; H302 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 Eye Irrit. 2; H319 Skin Irrit. 2; H315 Skin Sens. 1; H317 STOT SE 3; H335	>= 50.00 - < 70.00	wt%
2	**ammonia**			
	1336-21-6 215-647-6 007-001-01-2 01-2119488876-14	Skin Corr. 1B; H314 Eye Dam. 1; H318 STOT SE 3; H335 Aquatic Acute 1; H400	< 0.50	wt%

Full Text for all H-phrases and EUH-phrases: pls. see section 16

No	Note	Specific concentration limits	M-factor (acute)	M-factor (chronic)
1	-	-	M = 1	M = 1
2	B	STOT SE 3; H335: C >= 5%	-	-

Full text for the notes: pls. see section 16 “Notes relating to the identification, classification and labelling of substances ((EC) No 1272/2008, Annex VI)”.

Acute toxicity estimate (ATE) values			
No	oral	dermal	inhalative
1	1960 mg/kg bodyweight		
2	350 mg/kg bodyweight		

SECTION 4: First aid measures

4.1 Description of first aid measures

General information

In case of persisting adverse effects, consult a physician. Change contaminated, saturated clothing.

After inhalation

Remove affected person from the immediate area. Ensure supply of fresh air. In case of breathing difficulties give oxygen.

After skin contact

Wash off immediately with soap and water. Consult a doctor if skin irritation persists.

After eye contact

Separate eyelids, wash the eyes thoroughly with water (15 min.). In case of irritation consult an ophthalmologist.

After ingestion

Seek medical advice immediately. Rinse the mouth thoroughly with water. Never give anything by mouth to an unconscious person.

4.2 Most important symptoms and effects, both acute and delayed
No data available.

4.3 Indication of any immediate medical attention and special treatment needed
No data available.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media
Extinguishing measures to suit surroundings.

Unsuitable extinguishing media
No data available.

5.2 Special hazards arising from the substance or mixture
In the event of fire, the following can be released: Carbon dioxide (CO2); Carbon monoxide (CO); Hydrogen cyanide (HCN); Sulphur dioxide (SO2); Nitrous oxides (NOx); Combustion products of this material have to be classed invariably as respiratory poison.

5.3 Advice for firefighters
Fire-fighting operations, rescue and clearing work under effect of combustion and smoulder gases just may be done with breathing apparatus. Wear protective clothing. Run-off water from fire fighting must not be discharged into drains or enter surface water.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

For non-emergency personnel
Refer to protective measures listed in sections 7 and 8. Ensure adequate ventilation.

For emergency responders
No data available. Personal protective equipment (PPE) - see Section 8.

6.2 Environmental precautions
Do not discharge into the drains/surface waters/groundwater. Do not discharge into the subsoil/soil.

6.3 Methods and material for containment and cleaning up
Pick up with absorbent material (e.g., sand, kieselguhr, acid binder, universal binder, sawdust) and send for disposal. When collected, handle material as described under the section heading "Disposal considerations".

6.4 Reference to other sections
No data available.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling
No special measures necessary if stored and handled as prescribed. Provide good ventilation at the work area (local exhaust ventilation, if necessary).

General protective and hygiene measures
Do not eat, drink or smoke during work time. Keep away from foodstuffs and beverages. Wash hands before breaks and after work. Provide eye wash fountain in work area.

7.2 Conditions for safe storage, including any incompatibilities

Technical measures and storage conditions
Keep container tightly closed in a cool, well-ventilated place.

Requirements for storage rooms and vessels
Keep in original packaging, tightly closed.

Incompatible products
Do not store together with foodstuffs. Do not store together with: Acids; oxidizing agents

7.3 Specific end use(s)
No data available.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

DNEL, DMEL and PNEC values

DNEL values (worker)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	**zinc bis(diethyldithiocarbamate)**			**14324-55-1 238-270-9**	
	dermal	Long term (chronic)	systemic	500	mg/kg/day
	inhalative	Long term (chronic)	systemic	4	mg/m³
	inhalative	Short term (acut)	systemic	12	mg/m³
2	**ammonia**			**1336-21-6 215-647-6**	
	dermal	Short term (acut)	systemic	6.8	mg/kg/day
	with reference to: CAS 7664-41-7				
	dermal	Long term (chronic)	systemic	6.8	mg/kg/day
	with reference to: CAS 7664-41-7				
	inhalative	Short term (acut)	systemic	47.6	mg/m³
	with reference to: CAS 7664-41-7				
	inhalative	Short term (acut)	local	36	mg/m³
	with reference to: CAS 7664-41-7				
	inhalative	Long term (chronic)	systemic	47.6	mg/m³
	with reference to: CAS 7664-41-7				
	inhalative	Long term (chronic)	local	14	mg/m³
	with reference to: CAS 7664-41-7				

DNEL value (consumer)

No	Substance name			CAS / EC no	
	Route of exposure	Exposure time	Effect	Value	
1	**zinc bis(diethyldithiocarbamate)**			**14324-55-1 238-270-9**	
	oral	Long term (chronic)	systemic	0.6	mg/kg/day
	dermal	Long term (chronic)	systemic	300	mg/kg/day
	inhalative	Long term (chronic)	systemic	1	mg/m³
	inhalative	Short term (acut)	systemic	3	mg/m³
2	**ammonia**			**1336-21-6 215-647-6**	
	oral	Short term (acut)	systemic	6.8	mg/kg/day
	with reference to: CAS 7664-41-7				
	oral	Long term (chronic)	systemic	6.8	mg/kg/day
	with reference to: CAS 7664-41-7				
	dermal	Short term (acut)	systemic	68	mg/kg/day
	with reference to: CAS 7664-41-7				
	dermal	Long term (chronic)	systemic	68	mg/kg/day
	with reference to: CAS 7664-41-7				
	inhalative	Short term (acut)	systemic	23.8	mg/m³
	with reference to: CAS 7664-41-7				
	inhalative	Short term (acut)	local	7.2	mg/m³
	with reference to: CAS 7664-41-7				
	inhalative	Long term (chronic)	systemic	23.8	mg/m³
	with reference to: CAS 7664-41-7				
	inhalative	Long term (chronic)	local	2.8	mg/m³
	with reference to: CAS 7664-41-7				

PNEC values

No	Substance name		CAS / EC no	
	ecological compartment	Type	Value	
1	**zinc bis(diethyldithiocarbamate)**		**14324-55-1 238-270-9**	
	water	fresh water	0.32	µg/L
	water	marine water	0.032	µg/L
	water	Aqua intermittent	2.3	µg/L
	water	fresh water sediment	0.473	mg/kg

	water	marine water sediment	0.0473	mg/kg
	soil	-	0.0944	mg/kg
	sewage treatment plant	-	14.3	mg/L
	secondary poisoning	-	12	mg/kg food
2	**ammonia**		**1336-21-6** **215-647-6**	
	water	fresh water	0.0011	mg/L
	with reference to: CAS: 7664-41-7			
	water	marine water	0.0011	mg/L
	with reference to: CAS: 7664-41-7			
	water	Aqua intermittent	0.0068	mg/L
	with reference to: CAS: 7664-41-7			

8.2 Exposure controls

Appropriate engineering controls
No data available.

Personal protective equipment

Respiratory protection
If workplace exposure limits are exceeded, a respiration protection approved for this particular job must be worn. In case of aerosol and mist formation, take appropriate measures for breathing protection in the event workplace threshold values are not specified.

Eye / face protection
Safety glasses (EN 166)

Hand protection
In case of intensive contact, wear protective gloves (EN 374). Sufficient protection is given wearing suitable protective gloves checked according to i.e. EN 374, in the event of risk of skin contact with the product. Before use, the protective gloves should be tested in any case for its specific work-station suitability (i.e. mechanical resistance, product compatibility and antistatic properties). Adhere to the manufacturer's instructions and information relating to the use, storage, care and replacement of protective gloves. Protective gloves shall be replaced immediately when physically damaged or worn. Design operations thus to avoid permanent use of protective gloves.

Other
Normal chemical work clothing.

Environmental exposure controls
No data available.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

State of aggregation
liquid

Form
Dispersion

Colour
light yellow

Odour
characteristic

pH value			
Value	9	-	11

Boiling point / boiling range
No data available

Melting point/freezing point
No data available

Decomposition temperature
No data available

Flash point
Not applicable

Ignition temperature

No data available

Flammability
No data available

Lower explosion limit
No data available

Upper explosion limit
No data available

Vapour pressure			
Value	23		hPa
Reference temperature	20		°C

Relative vapour density
No data available

Relative density			
Value	1.0	-	1.1

Density
No data available

Solubility in water	
Comments	Completely miscible

Solubility
No data available

Partition coefficient n-octanol/water (log value)
No data available

Kinematic viscosity
No data available

Particle characteristics
No data available

9.2 Other information

Other information
No data available.

SECTION 10: Stability and reactivity

10.1 Reactivity
No data available.

10.2 Chemical stability
No data available.

10.3 Possibility of hazardous reactions
No data available.

10.4 Conditions to avoid
None, if handled according to intended use.

10.5 Incompatible materials
Oxidizing agents; Acids

10.6 Hazardous decomposition products
Possible in traces: n-nitrosamines under the effect of nitrosating agents.

SECTION 11: Toxicological information

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

Acute oral toxicity (result of the ATE calculation for the mixture)	
No	**Product Name**
1	**Octocure ZDE-50**

Comments	The result of the applied calculation method according to the European Regulation (EC) 1272/2008 (CLP), Paragraph 3.1.3.6, Part 3 of Annex I is outside the values that imply a classification / labelling of this mixture according to table 3.1.1 defining the respective categories (ATE oral > 2000 mg/kg).

Acute oral toxicity				
No	**Substance name**	**CAS no.**		**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**		**238-270-9**
LD50		1960 - 2280		mg/kg bodyweight
Species		rat		
Source		ECHA		
2	**ammonia**	**1336-21-6**		**215-647-6**
LD50			350	mg/kg bodyweight
Species		rat		
with reference to		CAS 7664-41-7		
Method		OECD 401		
Source		ECHA		

Acute dermal toxicity				
No	**Substance name**	**CAS no.**		**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**		**238-270-9**
LD50		>	2000	mg/kg bodyweight
Species		rabbit		
Source		ECHA		

Acute inhalational toxicity
No data available

Skin corrosion/irritation				
No	**Substance name**	**CAS no.**		**EC no.**
1	**ammonia**	**1336-21-6**		**215-647-6**
Duration of exposure			4	h
Species		rabbit		
with reference to		CAS 7664-41-7		
Method		OECD 404		
Source		ECHA		
Evaluation		corrosive		

Serious eye damage/irritation
No data available

Respiratory or skin sensitisation
No data available

Germ cell mutagenicity				
No	**Substance name**	**CAS no.**		**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**		**238-270-9**
Route of exposure		oral		
Type of examination		Chromosome aberration test		
Species		mouse		
Method		OECD 475		
Source		ECHA		
Evaluation/classification		Based on available data, the classification criteria are not met.		
2	**ammonia**	**1336-21-6**		**215-647-6**
Duration of exposure			48	h
Type of examination		Bacterial Reverse Mutation Test		
Species		Salmonella typhimurium TA98, TA100, TA1535, TA1537		
with reference to		CAS 7664-41-7		
Method		OECD 471		
Source		ECHA		
Evaluation/classification		Based on available data, the classification criteria are not met.		

Reproduction toxicity				
No	**Substance name**	**CAS no.**		**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**		**238-270-9**
Species		rat		
Source		ECHA		
Evaluation/classification		Based on available data, the classification criteria are not met.		

Carcinogenicity		
No	**Substance name**	**CAS no.**	**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**	**238-270-9**

Species	rat
Source	ECHA
Evaluation/classification	Based on available data, the classification criteria are not met.

STOT - single exposure
No data available

STOT - repeated exposure
No data available

Aspiration hazard
No data available

Delayed and immediate effects as well as chronic effects from short and long-term exposure
Irritates respiratory tract. Irritates the eyes and the skin. Possibility of sensitisation through skin contact.

11.2 Information on other hazards

Endocrine disrupting properties
No data available.

Other information
The toxicological information is based on the main components.

SECTION 12: Ecological information

12.1 Toxicity

Toxicity to fish (acute)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**	**238-270-9**

LC50	0.23	mg/l
Duration of exposure	96	h
Species	Oncorhynchus mykiss	
Method	EPA-660 / 3-75-009	
Source	ECHA	

Toxicity to fish (chronic)
No data available

Toxicity to Daphnia (acute)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**	**238-270-9**

EC50	0.24	mg/l
Duration of exposure	48	h
Species	Daphnia magna	
Method	OECD 202	
Source	ECHA	

Toxicity to Daphnia (chronic)
No data available

Toxicity to algae (acute)			
No	**Substance name**	**CAS no.**	**EC no.**
1	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**	**238-270-9**

EC50	1.1	mg/l
Duration of exposure	96	h
Species	Chlorella pyrenoidosa	
Method	OECD 201	

Toxicity to algae (chronic)
No data available

Bacteria toxicity
No data available

12.2 Persistence and degradability

Biodegradability

No	Substance name	CAS no.	EC no.
1	zinc bis(diethyldithiocarbamate)	14324-55-1	238-270-9

Type	aerobic biodegradation		
Value		2	%
Duration		28	day(s)
with reference to	CAS 136-23-2		
Method	OECD 301 F		
Source	ECHA		
Evaluation	not readily biodegradable		

12.3 Bioaccumulative potential
No data available.

12.4 Mobility in soil
No data available.

12.5 Results of PBT and vPvB assessment
No data available.

12.6 Endocrine disrupting properties
No data available.

12.7 Other adverse effects
No data available.

12.8 Other information

Other information
Do not allow to enter soil, waterways or waste water canal. Ecological data refers to the main components.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product
Allocation of a waste code number, according to the European Waste Catalogue, should be carried out in agreement with the regional waste disposal company.

Packaging
Residues must be removed from packaging and when emptied completely disposed of in accordance with the regulations for waste removal. Incompletely emptied packaging must be disposed of in the form of disposal specified by the regional disposer.

SECTION 14: Transport information

14.1 Transport ADR/RID/ADN

Class	9
Classification code	M6
Packing group	III
Hazard identification no.	90
UN number	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
Tunnel restriction code	-
Label	9
Environmentally hazardous substance mark	Symbol "fish and tree"

14.2 Transport IMDG

Class	9
Packing group	III
UN number	UN3082
Proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S.
EmS	F-A, S-F
Label	9
Marine pollutant mark	Symbol "fish and tree"

14.3 Transport ICAO-TI / IATA

Class	9
Packing group	III
UN number	UN3082

Proper shipping name	Environmentally hazardous substance, liquid, n.o.s.
Label	9
Environmentally hazardous substance mark	Symbol "fish and tree"

14.4 Other information
No data available.

14.5 Environmental hazards
Information on environmental hazards, if relevant, please see 14.1 - 14.3.

14.6 Special precautions for user
No data available.

14.7 Maritime transport in bulk according to IMO instruments
Not relevant

SECTION 15: Regulatory information

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

EU regulations

Regulation (EC) No 1907/2006 (REACH) Annex XIV (List of substances subject to authorisation)
According to the data available and/or specifications supplied by upstream suppliers, this product does not contain any substances considered as substances requiring authorisation as listed on Annex XIV of the REACH regulation (EC) 1907/2006.

REACH candidate list of substances of very high concern (SVHC) for authorisation
According to available data and the information provided by preliminary suppliers, the product does not contain substances that are considered substances meeting the criteria for inclusion in annex XIV (List of Substances Subject to Authorisation) as laid down in Article 57 and article 59 of REACH (EC) 1907/2006.

Regulation (EC) No 1907/2006 (REACH) Annex XVII: RESTRICTIONS ON THE MANUFACTURE, PLACING ON THE MARKET AND USE OF CERTAIN DANGEROUS SUBSTANCES, MIXTURES AND ARTICLES				
The product is considered being subject to REACH regulation (EC) 1907/2006 annex XVII.				No 3
The product contains following substance(s) that are considered being subject to REACH regulation (EC) 1907/2006 annex XVII.				
No	**Substance name**	**CAS no.**	**EC no.**	**No**
1	**ammonia**	**1336-21-6**	**215-647-6**	**75**
2	**zinc bis(diethyldithiocarbamate)**	**14324-55-1**	**238-270-9**	**75**

Directive 2012/18/EU on the control of major-accident hazards involving dangerous substances	
This product is subject to Part I of Annex I, risk category:	E1

15.2 Chemical safety assessment
No data available.

SECTION 16: Other information

Sources of key data used to compile the data sheet:
Regulation (EC) No 1907/2006 (REACH), 1272/2008 (CLP) as amended in each case.
Directives 2000/39/EC, 2006/15/EC, 2009/161/EU, (EU) 2017/164.
National Threshold Limit Values of the corresponding countries as amended in each case.
Transport regulations according to ADR, RID, IMDG, IATA as amended in each case.
The data sources used to determine physical, toxic and ecotoxic data, are indicated directly in the corresponding section.

Full text of the H- and EUH- phrases drawn up in sections 2 and 3 (provided not already drawn up in these sections)

H302	Harmful if swallowed.
H314	Causes severe skin burns and eye damage.
H318	Causes serious eye damage.
H400	Very toxic to aquatic life.

Notes relating to the identification, classification and labelling of substances and mixtures ((EC) No 1272/2008, Annex VI)

B	Some substances (acids, bases, etc.) are placed on the market in aqueous solutions at various concentrations and, therefore, these solutions require different classification and labelling since the hazards vary at different concentrations. In Part 3 entries with Note B have a general designation of the following type: 'nitric acid … %'. In this case the supplier must state the percentage concentration of the solution on the label. Unless otherwise stated, it is assumed that the percentage concentration is calculated on a weight/weight basis.

Creation of the safety data sheet

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This information is based on our present knowledge and experience.
The safety data sheet describes products with a view to safety requirements.
It does not however, constitute a guarantee for any specific product properties and shall not establish a legally valid contractual relationship.

Alterations/supplements:
Alterations to the previous edition are marked in the left-hand margin.

Prod-ID 635105