

SAFETY DATA SHEET

VULKACIT D/EG-C

LANXESS
Energizing Chemistry

56003251

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

1.1 Product identifier

Product name : VULKACIT D/EG-C
Hazardous ingredients : Contains: 1,3-diphenylguanidine

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

Suitable uses : Accelerator

1.3 Details of the supplier of the safety data sheet

Supplier : LANXESS Deutschland GmbH, Industrial & Environmental Affairs
51369 Leverkusen, Germany, Telephone: +49 214 30 65109
E-mail: infosds@lanxess.com

1.4 Emergency telephone number : +49 214 30 99300 (Sicherheitszentrale CHEMPARK Leverkusen)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification :  Acute Tox. 4, H302
Skin Irrit. 2, H315
Eye Irrit. 2, H319
Repr. 2, H361f
STOT SE 3, H335
Aquatic Chronic 2, H411

Classification according to Directive 1999/45/EC [DPD]

Classification : Repr. Cat. 3; R62
Xn; R22
Xi; R36/37/38
N; R51/53

Human health hazards : Possible risk of impaired fertility. Harmful if swallowed. Irritating to eyes, respiratory system and skin.

Environmental hazards : Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

2.2 Label elements

Hazard pictograms



Signal word : Warning
Contains: 1,3-diphenylguanidine

Hazard statements : H302 - Harmful if swallowed.
H319 - Causes serious eye irritation.
H315 - Causes skin irritation.
H361f - Suspected of damaging fertility.
H335 - May cause respiratory irritation.
H411 - Toxic to aquatic life with long lasting effects.

Additional warning phrases : Not applicable.

Precautionary statements

Prevention : Avoid breathing dust/fume/gas/mist/vapours/spray. Use only outdoors or in a well-ventilated area. Wear protective gloves/protective clothing/eye protection/face protection.

Response : IF SWALLOWED: Rinse mouth. IF ON SKIN: Wash with plenty of soap and water. IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. IF exposed or concerned: Call a POISON CENTER or physician.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and international regulations.

2.3 Other hazards

Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII : No.

Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII : No.

Other hazards which do not result in classification : None known.

SECTION 3: Composition/information on ingredients

Product definition (REACH) : Mixture

Product/ingredient name	Identifiers	%	<u>Classification</u>		Type
			67/548/EEC	Regulation (EC) No. 1272/2008 [CLP]	
3,3'-diphenylguanidine	REACH #: 01-2119519144-47 EC: 203-002-1 CAS: 102-06-7 Index: 612-149-00-4	>96	Repr. Cat. 3; R62 Xn; R22 Xi; R36/37/38 N; R51/53 See Section 16 for the full text of the R-phrases declared above.	Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361f STOT SE 3, H335 Aquatic Chronic 2, H411 See Section 16 for the full text of the H statements declared above.	[1]

Occupational exposure limits, if available, are listed in Section 8.

Type

- [1] Substance classified with a health or environmental hazard
- [2] Substance with a workplace exposure limit
- [3] Substance meets the criteria for PBT according to Regulation (EC) No. 1907/2006, Annex XIII
- [4] Substance meets the criteria for vPvB according to Regulation (EC) No. 1907/2006, Annex XIII
- [5] Substance of equivalent concern

SECTION 4: First aid measures

4.1 Description of first aid measures

- | | |
|---------------------|---|
| Inhalation | : Move exposed person to fresh air. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. Keep person warm and at rest. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours. |
| Ingestion | : Wash out mouth with water. Move exposed person to fresh air. Keep person warm and at rest. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. |
| Skin contact | : Flush contaminated skin with plenty of water. Remove contaminated clothing and shoes. Continue to rinse for at least 10 minutes. Get medical attention. Wash clothing before reuse. Clean shoes thoroughly before reuse. |
| Eye contact | : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention. |

4.2 Most important symptoms and effects, both acute and delayed

See Section 11 for more detailed information on health effects and symptoms.

4.3 Indication of any immediate medical attention and special treatment needed

See Section 11 for more detailed information on health effects and symptoms.

SECTION 5: Firefighting measures

5.1 Extinguishing media

Suitable extinguishing media : In case of fire, use water spray (fog), foam, dry chemical or CO₂.

Unsuitable extinguishing media : None known.

5.2 Special hazards arising from the substance or mixture

- Hazards from the substance or mixture** : No specific fire or explosion hazard.
- Hazardous combustion products** : Decomposition products may include the following materials:
carbon oxides
nitrogen oxides

5.3 Advice for firefighters

- Special precautions for fire-fighters** : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. This material is toxic to aquatic organisms. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.
- Special protective equipment for fire-fighters** : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

SECTION 6: Accidental release measures

- 6.1 Personal precautions, protective equipment and emergency procedures** : No action shall be taken involving any personal risk or without suitable training. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilt material. Provide adequate ventilation. Put on appropriate personal protective equipment (see Section 8).
- 6.2 Environmental precautions** : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.
- 6.3 Methods and materials for containment and cleaning up**
- Small spill** : Move containers from spill area. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor.
- Large spill** : Move containers from spill area. Prevent entry into sewers, water courses, basements or confined areas. Vacuum or sweep up material and place in a designated, labelled waste container. Dispose of via a licensed waste disposal contractor. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.
- 6.4 Reference to other sections** : See Section 1 for emergency contact information.
See Section 8 for information on appropriate personal protective equipment.
See Section 13 for additional waste treatment information.

SECTION 7: Handling and storage

- 7.1 Precautions for safe handling** : Put on appropriate personal protective equipment (see Section 8). Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a

7.2 Conditions for safe storage, including any incompatibilities

compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous.

: Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabelled containers. Use appropriate containment to avoid environmental contamination.

Seveso II Directive - Reporting thresholds (in tonnes)**Danger criteria**

Category	Notification and MAPP threshold	Safety report threshold
E2: Hazardous to the aquatic environment - Chronic 2	200	500
C9ii: Toxic for the environment	200	500

7.3 Specific end use(s)

Recommendations : Not available.

Industrial sector specific solutions : Not available.

SECTION 8: Exposure controls/personal protection**8.1 Control parameters**

Exposure limit values : Not available.

Recommended monitoring procedures

: If this product contains ingredients with exposure limits, personal, workplace atmosphere or biological monitoring may be required to determine the effectiveness of the ventilation or other control measures and/or the necessity to use respiratory protective equipment. Reference should be made to monitoring standards, such as the following: European Standard EN 689 (Workplace atmospheres - Guidance for the assessment of exposure by inhalation to chemical agents for comparison with limit values and measurement strategy) European Standard EN 14042 (Workplace atmospheres - Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents) European Standard EN 482 (Workplace atmospheres - General requirements for the performance of procedures for the measurement of chemical agents) Reference to national guidance documents for methods for the determination of hazardous substances will also be required.

8.2 Exposure controls**Risk management measures****Occupational exposure controls**

Technical measures : Use only with adequate ventilation. If user operations generate dust, fumes, gas, vapour or mist, use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Personal protection measures

- Respiratory protection** : Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary. Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
Recommended: Dust-protection mask
- Hand protection** : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. After contamination with product change the gloves immediately and dispose of them according to relevant national and local regulations
Recommended: (< 1 hour) Polychloroprene - CR Nitrile rubber - NBR
- Eye protection** : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts.
Recommended: safety glasses with side-shields
- Skin protection** : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.
Recommended: Wear protective clothing.
- Hygiene measures** : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Environmental exposure controls

- Technical measures** : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

General information

Appearance

- Physical state** : Solid. [oil-coated granules]
- Colour** : Greyish-white.
- Odour** : Aromatic.

Important health, safety and environmental information

- Boiling point** : 170 °C (1013 hPa)
- Melting point** : 145 to 150°C (293 to 302°F)
- Flash point** : Closed cup: 157°C (314,6°F)
- Explosion limits** : Lower: 12,6%
- Risk of dust explosion** : Class of dust explosion St 1: danger of explosion (according to VDI 2263)
- Vapour pressure** : < 0.0001 hPa (20°C)
- Density** : 1,15 kg/L (20°C)
- Solubility** : 0,325 g/l (water)
Very slightly soluble in the following materials: cold water

Ignition temperature : 790°C
 Decomposition temperature : >170°C

9.2 Other information

Remarks : Dust explosive data Pmax = 67psi; Rmax = 4400psi/sec; minimum ignition energy: 13mJ

No additional information.

SECTION 10: Stability and reactivity

10.1 Reactivity : No specific test data related to reactivity available for this product or its ingredients.
10.2 Chemical stability : The product is stable.
10.3 Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.
10.4 Conditions to avoid : Materials to avoid: contact with oxidizing materials
10.5 Incompatible materials : No specific data.
10.6 Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

SECTION 11: Toxicological information

11.1 Information on toxicological effects

Potential acute health effects

Inhalation : May cause respiratory irritation.
Ingestion : Harmful if swallowed. Irritating to mouth, throat and stomach.
Skin contact : Causes skin irritation.
Eye contact : May cause eye irritation.

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure	Test
1,3-diphenylguanidine	LD50 Oral	- Rat	323 mg/kg	-	-
1,3-diphenylguanidine	LD50 Dermal	Design caused no mortality Rabbit - Male, Female	>2000 mg/kg	-	OECD EU Method B.3 (Acute Toxicity (Dermal))

Acute toxicity estimates

Route	ATE value (Acute Toxicity Estimates)
Oral	333,1 mg/kg

Irritation/Corrosion

Skin : 1,3-diphenylguanidine:Irritant.
Eyes : 1,3-diphenylguanidine:Irritant

Sensitiser

Product/ingredient name	Route of exposure	Species	Result	Test description
1,3-diphenylguanidine	skin	Guinea pig	Not sensitizing	-

Potential chronic health effects**Chronic toxicity**

Product/ingredient name	Result	Species	Dose	Exposure
4,3-diphenylguanidine	Sub-chronic NOAEL Oral	Rat - Male, Female	17 mg/kg bw/ day	13 weeks; 7 days per week

Mutagenicity

Product/ingredient name	Test	Experiment	Result
4,3-diphenylguanidine	OECD 471 Bacterial Reverse Mutation Test	Experiment: In vitro Subject: Bacteria	Negative
	OECD 473 In vitro Mammalian Chromosomal Aberration Test	Experiment: In vitro Subject: Mammalian-Animal	Negative

Reproductive toxicity

Conclusion/Summary : Chronic animal studies have shown this material to cause reproductive effects

Fertility effects : Suspected of damaging fertility.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
4,3-diphenylguanidine	Category 3	Not applicable.	Respiratory tract irritation

SECTION 12: Ecological information**12.1 Toxicity**

Product/ingredient name	Test	Result	Species	Exposure
4,3-diphenylguanidine	OECD 209 Activated Sludge, Respiration Inhibition Test	Acute EC50 147 mg/l Fresh water	Bacteria - adapted and activated sludge micro- organism	3 hours
	-	Acute EC50 17 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	(growth rate)	Acute EC50 7,5 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	OECD 201 Freshwater Alga and Cyanobacteria, Growth Inhibition Test	Acute EC50 1,7 mg/l Fresh water	Algae - Desmodesmus subspicatus	72 hours
	-	Acute LC50 4,2 mg/l Fresh water	Fish - Pimephales promelas	96 hours
	OECD 211 Daphnia Magna Reproduction Test	Chronic NOEC 0,6 mg/l Fresh water	Daphnia - Daphnia magna	21 days

Conclusion/Summary : Not available.

Product/ingredient name	Test	Result	Species	Exposure
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12.2 Persistence and degradability

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
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1,3-diphenylguanidine	-	50%; 0.19 day(s)	Inherent
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Product/ingredient name	Rate of degradation/elimination (%)	Period (days)	Test
1,3-diphenylguanidine	100 %	14 days	OECD 309 Aerobic Mineralization in Surface Water - Simulation
	79 %	20 days	Biodegradation Test
	55 to 71 %	28 days	301D Ready Biodegradability - Closed Bottle Test
			OECD 301B Ready Biodegradability - CO2 Evolution Test

Conclusion/Summary : Not available.

12.3 Bioaccumulative potential**Bioaccumulative potential**

Product/ingredient name	LogP _{ow}	BCF	Potential
1,3-diphenylguanidine	1,69	-	low

12.4 Mobility in soil

Soil/water partition coefficient (K_{oc}) : Not available.

Mobility : Not available.

12.5 Results of PBT and vPvB assessment

PBT : No.

vPvB : No.

12.6 Other adverse effects

Other adverse effects : Not available.

AOX : The product does not contain organically bound halogens which could lead to an AOX value in waste water.

SECTION 13: Disposal considerations

13.1 Waste treatment methods**Product**

Methods of disposal : Examine possibilities for re-utilisation. Product residues and uncleaned empty containers should be packaged, sealed, labelled, and disposed of or recycled according to relevant national and local regulations. Where large quantities are concerned, consult the supplier. When uncleaned empty containers are passed on, the recipient must be warned of any possible hazard that may be caused by residues. For disposal within the EC, the appropriate code according to the European Waste List (EWL) should be used. It is among the tasks of the polluter to assign the waste to waste codes specific to industrial sectors and processes according to the European Waste List (EWL).

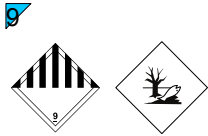
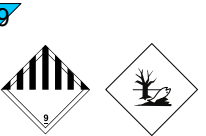
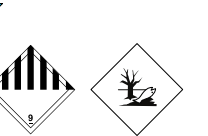
Hazardous waste : The classification of the product may meet the criteria for a hazardous waste.

Packaging

Methods of disposal : The generation of waste should be avoided or minimised wherever possible. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible.

Special precautions : This material and its container must be disposed of in a safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers.

SECTION 14: Transport information

	ADR/RID	ADN	IMDG	IATA
14.1 UN number	UN3077	UN3077	UN3077	UN3077
14.2 UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIPHENYLGUANIDINE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIPHENYLGUANIDINE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIPHENYLGUANIDINE)	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (DIPHENYLGUANIDINE)
14.3 Transport hazard class(es)/ Marks				
14.4 Packing group	III	III	III	III
14.5 Environmental hazards	Yes.	Yes.	Yes	Yes
14.6 Special precautions for user/Additional information	<u>Hazard identification number</u> 90	<u>Hazard identification number</u> 90	<u>Emergency schedules (EmS)</u> F-A, S-F	<u>Passenger aircraft</u> 956: 400 kg <u>Cargo aircraft</u> 956: 400 kg

14.7 Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code : Not available.

Hazard notes:

Environmentally hazardous substance.

Irritating to skin and eyes.

Keep dry.

Keep separated from foodstuffs.

SECTION 15: Regulatory information

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

EU Regulation (EC) No. 1907/2006 (REACH)

Annex XIV - List of substances subject to authorisation

Annex XIV

None of the components are listed.

Substances of very high concern

None of the components are listed.

Annex XVII - : Not applicable.

**Restrictions on the
manufacture, placing on
the market and use of
certain dangerous
substances, mixtures
and articles**

Other EU regulations

Seveso II Directive

This product is controlled under the Seveso II Directive.

Danger criteria

Category
E2: Hazardous to the aquatic environment - Chronic 2 C9ii: Toxic for the environment

15.2 Chemical Safety Assessment : This product contains substances for which Chemical Safety Assessments are still required.

SECTION 16: Other information

**Abbreviations and
acronyms**

: ATE = Acute Toxicity Estimate
CLP = Classification, Labelling and Packaging Regulation [Regulation (EC) No. 1272/2008]
DNEL = Derived No Effect Level
EUH statement = CLP-specific Hazard statement
PBT = Persistent, Bioaccumulative and Toxic
PNEC = Predicted No Effect Concentration
RRN = REACH Registration Number
vPvB = Very Persistent and Very Bioaccumulative

Procedure used to derive the classification according to Regulation (EC) No. 1272/2008 [CLP/GHS]

Classification	Justification
Acute Tox. 4, H302 Skin Irrit. 2, H315 Eye Irrit. 2, H319 Repr. 2, H361f STOT SE 3, H335 Aquatic Chronic 2, H411	Calculation method Calculation method Calculation method Calculation method Calculation method Expert judgement

Full text of abbreviated H statements	: H302	Harmful if swallowed.
	H315	Causes skin irritation.
	H319	Causes serious eye irritation.
	H335	May cause respiratory irritation.
	H361f	Suspected of damaging fertility.
Full text of R-phrases referred to in sections 2 and 3	H411	Toxic to aquatic life with long lasting effects.
	: R62-	Possible risk of impaired fertility.
	R22-	Harmful if swallowed.
	R36/37/38-	Irritating to eyes, respiratory system and skin.
	R51/53-	Toxic to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

History

Date of issue : 2013-07-03

Date of previous issue : 2012-09-12

Version : 2

▣ Indicates information that has changed from previously issued version.

Notice to reader

The data given here is based on current knowledge and experience. The purpose of this Safety Data Sheet and its Annex [if required according to Regulation (EC) 1907/2006 (REACH)] is to describe the products in terms of their safety requirements. The given details do not imply any guarantee concerning the composition, properties or performance.