



SAFETY DATA SHEET

Creation Date 18-Mar-2010

Revision Date 24-Nov-2010

Revision Number 1

1. PRODUCT AND COMPANY IDENTIFICATION

Product Identifier

Product Description: 2,3-Dichloro-5,6-dicyano-1,4-benzoquinone
Cat No. 113300000; 113300050; 113300100; 113301000
Synonyms 4,5-Dichloro-3,6-dioxo-1,4-cyclohexadiene-1,2-carbonitrile; DDQ

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

Recommended Use Laboratory chemicals
Uses advised against No Information available

Details of the supplier of the safety data sheet

Company

Acros Organics BVBA
Janssen Pharmaceuticaaan 3a
2440 Geel, Belgium

E-mail address begel.sdsdesk@thermofisher.com

Emergency Telephone Number

For information in the US, call: 001-800-ACROS-01
For information in Europe, call: +32 14 57 52 11

Emergency Number, Europe: +32 14 57 52 99
Emergency Number, US: 001-201-796-7100

CHEMTREC Phone Number, US: 001-800-424-9300
CHEMTREC Phone Number, Europe: 001-703-527-3887

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

REGULATION (EC) No 1272/2008

Acute oral toxicity	Category 3
Acute dermal toxicity	Category 4
Acute Inhalation Toxicity - Dusts and Mists	Category 4
Serious Eye Damage/Eye Irritation	Category 1

Classification according to EU Directives 67/548/EEC or 1999/45/EC

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

Symbol(s) T - Toxic
R -phrase(s) R25 - Toxic if swallowed
R29 - Contact with water liberates toxic gas
R41 - Risk of serious damage to eyes
Risk Combination Phrases R20/21 - Harmful by inhalation and in contact with skin

2,3-Dichloro-5,6-dicyano-1,4-benzoquinone

Revision Date 24-Nov-2010

2. HAZARDS IDENTIFICATION

Label Elements



Signal Word

Danger

Hazard Statements

- H332 - Harmful if inhaled
- H318 - Causes serious eye damage
- H312 - Harmful in contact with skin
- H301 - Toxic if swallowed
- EUH029 - Contact with water liberates toxic gas

Precautionary Statements - EU (§28, 1272/2008)

- P301 + P310 - IF SWALLOWED: Immediately call a POISON CENTER or doctor/ physician
- P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing
- P302 + P352 - IF ON SKIN: Wash with plenty of soap and water
- P310 - Immediately call a POISON CENTER or doctor/ physician
- P280 - Wear protective gloves/ protective clothing/ eye protection/ face protection
- P402 + P404 - Store in a dry place. Store in a closed container
- P304 + P340 - IF INHALED: Remove to fresh air and keep at rest in a position comfortable for breathing

Other Hazards

No information available.

3. COMPOSITION/INFORMATION ON INGREDIENTS

Component	EC No.	Weight %	CAS-No	Classification	GHSCLAS	REACH Reg. No.
1,4-Cyclohexadiene-1,2-dicarbonitrile, 4,5-dichloro-3,6-dioxo-84-58-2	EEC No. 201-542-2	>95	84-58-2	Xn;R20/21 T;R25 R29 Xi;R41	Eye Dam. 1 (H318) Acute Tox. 3 (H301) Acute Tox. 4 (H312) Acute Tox. 4 (H332) (EUH029)	-

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

2,3-Dichloro-5,6-dicyano-1,4-benzoquinone

Revision Date 24-Nov-2010

4. FIRST AID MEASURES

Description of first aid measures

Eye Contact

Rinse immediately with plenty of water, also under the eyelids, for at least 15 minutes. Immediate medical attention is required.

Skin Contact

Wash off immediately with plenty of water for at least 15 minutes. Immediate medical attention is required.

Ingestion

Do not induce vomiting. Call a physician or Poison Control Center immediately.

Inhalation

Move to fresh air. If breathing is difficult, give oxygen. Do not use mouth-to-mouth resuscitation if victim ingested or inhaled the substance; induce artificial respiration with a respiratory medical device. Immediate medical attention is required.

Notes to Physician

Treat symptomatically

5. FIRE-FIGHTING MEASURES

Extinguishing media

Suitable Extinguishing Media

CO₂, dry chemical, dry sand, alcohol-resistant foam.

Extinguishing media which must not be used for safety reasons

No information available.

Special hazards arising from the substance or mixture

Contact with water liberates toxic gas.

Advice for fire-fighters

As in any fire, wear self-contained breathing apparatus pressure-demand, MSHA/NIOSH (approved or equivalent) and full protective gear. Thermal decomposition can lead to release of irritating gases and vapors.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures

Ensure adequate ventilation. Use personal protective equipment. Keep people away from and upwind of spill/leak. Evacuate personnel to safe areas. Avoid dust formation.

Environmental precautions

Should not be released into the environment.

Methods and material for containment and cleaning up

Sweep up or vacuum up spillage and collect in suitable container for disposal. Avoid dust formation. Do not expose spill to water.

7. HANDLING AND STORAGE

Precautions for Safe Handling

Use only under a chemical fume hood Wear personal protective equipment Do not get in eyes, on skin, or on clothing Do not allow contact with water Avoid dust formation Do not breathe vapors/dust Do not ingest

Conditions for safe storage, including any incompatibilities

Keep away from water Keep containers tightly closed in a dry, cool and well-ventilated place

Specific End Uses

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

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

Derived No Effect Level (DNEL) No information available.
Predicted No Effect Concentration (PNEC) No information available.

Exposure controls

Engineering Measures Use only under a chemical fume hood Ensure that eyewash stations and safety showers are close to the workstation location

Personal protective equipment

Eye Protection Safety glasses with side-shields
Hand Protection Protective gloves
Skin and body protection Wear appropriate protective gloves and clothing to prevent skin exposure
Respiratory Protection Follow the OSHA respirator regulations found in 29 CFR 1910.134 or European Standard EN 149. Use a NIOSH/MSHA or European Standard EN 149 approved respirator if exposure limits are exceeded or if irritation or other symptoms are experienced

Hygiene Measures Handle in accordance with good industrial hygiene and safety practice
Environmental exposure controls No information available.

9. PHYSICAL AND CHEMICAL PROPERTIES

Physical State	Solid
Appearance	Yellow-orange
odor	odorless
pH	No information available.
Boiling Point/Range	No information available.
Melting Point/Range	210 - 217°C / 410 - 422.6°F
Flash Point	No information available.

2,3-Dichloro-5,6-dicyano-1,4-benzoquinone

Revision Date 24-Nov-2010

9. PHYSICAL AND CHEMICAL PROPERTIES

Autoignition Temperature	No information available.
Water Solubility	Water reactive
Molecular Formula	C8 Cl2 N2 O2
Molecular Weight	227.01

10. STABILITY AND REACTIVITYReactivity

Reactive Hazard Yes
Chemical Stability

Water reactive. Moisture sensitive.

Possibility of Hazardous Reactions

Hazardous Polymerization Hazardous polymerization does not occur.
Hazardous Reactions . Contact with water liberates toxic gas.

Conditions to Avoid

Incompatible products, Excess heat, Exposure to moist air or water, Exposure to moisture, Avoid dust formation, Temperatures above 100°C.

Incompatible Materials

Strong oxidizing agents, Strong reducing agents, Water, Strong acids, Strong bases, Alcohols.

Hazardous Decomposition Products

Carbon monoxide (CO). Carbon dioxide (CO₂). Hydrogen cyanide (hydrocyanic acid). Hydrogen chloride gas. Nitrogen oxides (NO_x).

11. TOXICOLOGICAL INFORMATIONInformation on Toxicological EffectsAcute Toxicity

Product Information No acute toxicity information is available for this product

Component InformationChronic Toxicity

Carcinogenicity There are no known carcinogenic chemicals in this product

2,3-Dichloro-5,6-dicyano-1,4-benzoquinone

Revision Date 24-Nov-2010

Sensitization	No information available.
Mutagenic Effects	No information available
Reproductive Effects	No information available.
Developmental Effects	No information available.
Target Organs	Eyes
Other Adverse Effects	The toxicological properties have not been fully investigated. See actual entry in RTECS for complete information
Endocrine Disruptor Information	None known

12. ECOLOGICAL INFORMATION

Toxicity

Ecotoxicity effects Do not empty into drains

Persistence and degradability

No information available

Bioaccumulative potential

No information available.

Mobility in soil

No information available.

Results of PBT and vPvB assessment

Other adverse effects

No information available

13. DISPOSAL CONSIDERATIONS

Waste treatment methods

Waste from Residues / Unused Products Dispose of in accordance with local regulations

Contaminated Packaging Empty containers should be taken for local recycling, recovery or waste disposal

14. TRANSPORT INFORMATION

IMDG/IMO

2,3-Dichloro-5,6-dicyano-1,4-benzoquinone
Revision Date 24-Nov-2010
14. TRANSPORT INFORMATION

UN-No UN3439
Hazard Class 6.1
Packing Group III
Proper Shipping Name Nitriles, toxic, solid, n.o.s

ADR

UN-No UN3439
Hazard Class 6.1
Packing Group III
Proper Shipping Name Nitriles, toxic, solid, n.o.s.

IATA

UN-No UN3439
Hazard Class 6.1
Packing Group III
Proper Shipping Name Nitriles, toxic, solid, n.o.s.

15. REGULATORY INFORMATION
Safety, health and environmental regulations/legislation specific for the substance or mixture
International Inventories

Component	EINECS	ELINCS	NLP	TSCA	DSL	NDSL	PICCS	ENCS	CHINA	AICS	KECL
1,4-Cyclohexadiene-1,2-dicarbonitrile, 4,5-dichloro-3,6-dioxo-	201-542-2	-		X	X	-	X	X	X	X	-

Legend
TSCA - United States Toxic Substances Control Act Section 8(b) Inventory

EINECS/ELINCS - European Inventory Lists

DSL/NDSL - Canadian Domestic Substances List/Non-Domestic Substances List

PICCS - Philippines Inventory of Chemicals and Chemical Substances

ENCS - Japan Existing and New Chemical Substances

CHINA - China Inventory of Existing Chemical Substances

AICS - Inventory of Chemical Substances

KECL - Existing and Evaluated Chemical Substances

Chemical Safety Assessment

2,3-Dichloro-5,6-dicyano-1,4-benzoquinone

Revision Date 24-Nov-2010

16. OTHER INFORMATION**Text of R phrases mentioned in Section 2-3**

R25 - Toxic if swallowed
R29 - Contact with water liberates toxic gas
R41 - Risk of serious damage to eyes
R20/21 - Harmful by inhalation and in contact with skin

Revision Date 24-Nov-2010
Revision Summary Not applicable

This safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006

Disclaimer

The information provided on this SDS 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 guide for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered as 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 material or in any process, unless specified in the text

End of Safety Data Sheet