

Safety Data Sheet

Paraquat dichloride

Version : V2.0.0.1

Report No. : BWN0002-2016-MSDS-EP

Creation Date : 2026/01/26

Revision Date : -



*Prepared in accordance with EU REACH Regulation (REACH 1907/2006 with amendment 2020/878)

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

1.1 Product identifier

Product Name	Paraquat dichloride
Cat No.	BWN0002-2016
CAS No.	1910-42-5
EC No.	217-615-7
Molecular Formula	C12H14Cl2N2
REACH Registration Number	-
UFI	Not applicable

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

Relevant identified uses	Please consult manufacturer.
Uses advised against	Please consult manufacturer.

1.3 Details of the supplier of the Safety Data Sheet

Name of the company	Weiyel Inc
Address of the company	Hedian Light Industrial Park, Chengguan Town, Shangcheng County, Xinyang City, Henan Province, China
Post code	465350
Telephone number	010-58103678
Fax number	010-84840368
E-mail address	info@weiyel.com

1.4 Emergency telephone number

Emergency telephone number	010-58103678
Opening hours	24h

2 Hazards identification

2.1 CLP classification according to Regulation (EC) No. 1272/2008 with amendment 2023/707

Acute Toxicity - Oral	Category 3
Acute Toxicity - Dermal	Category 3
Skin corrosion/irritation	Category 1
Serious eye damage/irritation	Category 1
Acute Toxicity - Inhalation	Category 2
Specific target organ toxicity -	Category 3

single exposure; respiratory tract irritation	
Specific target organ toxicity - repeated exposure	Category 1
Hazardous to the aquatic environment - short-term (acute) hazard	Category 1
Hazardous to the aquatic environment - long-term (chronic) hazard	Category 1

2.2 Label elements

Hazard pictograms	
Signal word	Danger

Hazard statements

H301	Toxic if swallowed
H311	Toxic in contact with skin
H314	Causes severe skin burns and eye damage
H318	Causes serious eye damage
H330	Fatal if inhaled
H335	May cause respiratory irritation
H372	Causes damage to organs through prolonged or repeated exposure
H400	Very toxic to aquatic life
H410	Very toxic to aquatic life with long lasting effects

Precautionary statements

◆ Prevention

P260	Do not breathe dust/fume.
P264	Wash hands and other parts of the body (if related) thoroughly after handling.
P270	Do not eat, drink or smoke when using this product.
P271	Use only outdoors or in a well-ventilated area.
P273	Avoid release to the environment.
P280	Wear protective gloves/protective clothing/eye protection/face protection.
P284	[In case of inadequate ventilation] wear respiratory protection.

◆ Response

P310	Immediately call a POISON CENTER/doctor.
P314	Get medical advice/ attention if you feel unwell.
P320	Specific treatment is urgent (see related instructions on the label).
P321	Specific treatment (see related instructions on the label).
P330	Rinse mouth.
P363	Wash contaminated clothing before reuse.
P391	Collect spillage.

P301+P310	IF SWALLOWED: Immediately call a POISON CENTER/doctor.
P302+P352	IF ON SKIN: Wash with plenty of water.
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.
P361+P364	Take off immediately all contaminated clothing and wash it before reuse.
P301+P330+P331	IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P303+P361+P353	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse affected areas with water [or shower].
P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

◆ Storage

P405	Store locked up.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

◆ Disposal

P501	Dispose of contents/container in accordance with local/regional/national/international regulations.
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2.3 Other hazards

◆ Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Paraquat-dichloride	Not PBT/vPvB

◆ Results of endocrine disrupting properties assessment

Component	Results of endocrine disrupting properties assessment [according to (EU) No 2017/2100 or (EU) No 2018/605]
Paraquat-dichloride	Insufficient information, temporarily unable to evaluate

◆ Other

	Not applicable.
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3 Composition/information on ingredients

3.1 Substance

Component	Weight % content(or range)	Classification according to Regulation (EC) No. 1272/2008 with amendment 2023/707 [CLP]	Specific Conc. Limits, M-factors
Paraquat-dichloride CAS : 1910-42-5 EC : 217-615-7 Index No. : 613-090-00-7	98.3	Acute Toxicity - Oral, Category 3, H301; Acute Toxicity - Dermal, Category 3, H311; Skin Corrosion/Irritation, Category 2, H315; Serious eye damage/irritation, Category 2, H319; Acute Toxicity - Inhalation, Category 2, H330; Specific target organ toxicity - single exposure; respiratory tract irritation, Category 3, H335; Specific target organ toxicity - repeated exposure, Category 1, H372; Hazardous to the aquatic environment - short-term (acute) hazard, Category 1, H400; Hazardous to the aquatic environment - long-term (chronic) hazard, Category 1, H410	-

3.2 Mixture

Not applicable

4 First-aid measures**4.1 Description of first aid measures**

General advice	Immediate medical attention is required. Show this safety data sheet (SDS) to the doctor in attendance.
Eye contact	First rinse with plenty of water for several minutes (remove contact lenses if easily possible), then take to a doctor.
Skin contact	Remove contaminated clothes. Rinse and then wash skin with water and soap. Refer for medical attention.
Ingestion	Rinse mouth. Give plenty of water to drink, or bentonite clay in water, or give a slurry of activated charcoal in water to drink. Induce vomiting (ONLY IN CONSCIOUS PERSONS!). Refer for medical attention.
Inhalation	Fresh air, rest. Half-upright position. Refer for medical attention.
Protecting of first-aiders	Ensure that medical personnel are aware of the substance involved. Take precautions to protect themselves and prevent spread of contamination.

4.2 Most important symptoms/effects, acute and delayed

1	Substance accumulation, in the human body, may occur and may cause some concern following repeated or long-term occupational exposure.
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4.3 Indication of any immediate medical attention and special treatment needed

1	Treat symptomatically.
2	Symptoms may be delayed.

5 Fire-fighting measures**5.1 Extinguishing media**

Suitable extinguishing media	Small fire: dry chemical, CO ₂ or water spray; Large fire: dry chemical, CO ₂ , alcohol-resistant foam or water spray; Fire involving tanks, rail tank cars or highway tanks: Fight fire from maximum distance or use unmanned master stream devices or monitor nozzles. Cool containers with flooding quantities of water until well after fire is out. Do not get water inside containers.
Unsuitable extinguishing media	No information available.

5.2 Specific hazards arising from the substance or mixture

1	May emit poisonous fumes on fire.
2	Development of hazardous combustion gases or vapor possible in the event of fire.
3	May expansion or decompose explosively when heated or involved in fire.

5.3 Advice for firefighters

1	As in any fire, wear self-contained breathing apparatus (MSHA/NIOSH approved or equivalent) and full protective gear.
2	Fight fire from a safe distance, with adequate cover.
3	Prevent fire extinguishing water from contaminating surface water or the ground water system.

6 Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

1	Fully encapsulating, vapor protective clothing should be worn for spills and leaks with no fire.
2	Do not touch or walk through spilled material.
3	Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
4	Ensure adequate ventilation. Remove all sources of ignition. Take precautionary measures against static discharges.
5	Evacuate personnel to safe areas. Keep people away from and upwind of spill/leak.
6	Use personal protective equipment, do not breathe dust/fume.

6.2 Environmental precautions

1	Prevent further leakage or spillage if safe to do so.
2	Discharge into the environment must be avoided.

6.3 Methods and materials for containment and cleaning up

1	Isolation of contaminated areas and restrictions on access.
2	It is recommended that emergency personnel wear dust masks and wear anti-virus suits.
3	Do not touch broken containers and spills before putting on appropriate protective clothing.
4	Cover the spill with a plastic sheet to reduce scattering.
5	Cut off the source of the leak as much as possible.
6	Keep leaks in a ventilated place.
7	It is recommended that emergency personnel wear dust masks.
8	Collect the spill with a clean shovel and place it in a clean, dry, loosely closed container and move the container away from the leak.
9	Adhered or collected material should be promptly disposed of, in accordance with appropriate laws and regulations.

6.4 Reference to other sections

1	Personal Protective Equipment advice is contained in Section 8 of the SDS.
2	Disposal considerations advice is contained in Section 13 of the SDS.

7 Handling and storage

7.1 Precautions for safe handling

◆ Protective measures

1	Handling is performed in a well ventilated place.
2	Wear suitable protective equipment.
3	Avoid contact with skin and eyes.

◆ Measures to prevent fire

1	Keep away from heat/sparks/open flames/ hot surfaces.
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◆ Measures to prevent aerosol and dust generation

1	Avoid formation of dust and aerosols.
2	Provide appropriate exhaust ventilation at places where dust is formed.

◆ Advice on general occupational hygiene

1	Wash hands and face after using the substances.
2	Replace the contaminated clothing immediately.

7.2 Conditions for safe storage, including any incompatibilities

1	Keep containers tightly closed.
2	Keep containers in a dry, cool and well-ventilated place.
3	Keep away from heat/sparks/open flames/hot surfaces.
4	Store away from incompatible materials and foodstuff containers.

7.3 Specific end use(s)

1	In addition to use mentioned in the Section 1.2, unforeseen other specific end uses.
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8 Exposure controls/personal protection

8.1 Control parameters

◆ Occupational exposure limit values

Component	Country/Region	Limit value - Eight hours		Limit value - Short term	
		ppm	mg/m ³	ppm	mg/m ³
Paraquat-dichloride	Germany (AGS)	-	0.1	-	0.1
	United Kingdom	-	0.08	-	-
	Austria	-	0.1(inhalable aerosol)	-	0.1(inhalable aerosol)
	Denmark	-	0.1	-	0.2
	Finland	-	0.1	-	0.3
	Hungary	-	0.1	-	0.1

◆ Biological limit values

Component	Standard	Biological monitoring index	Biological limits value	Sampling time	Remark
Paraquat-dichloride	USA -ACGIH	Methemoglobin(Hemoglobin in blood)	5%	During or end of shift	

◆ Monitoring methods

1	EN 14042 Workplace atmospheres. Guide for the application and use of procedures for the assessment of exposure to chemical and biological agents.
2	GBZ/T 300 and GBZ/T 160 series standard Determination of toxic substances in workplace air.

◆ Derived No effect level (DNEL)

Component	Route of exposure	DNEL for Workers			
		Acute effects (local)	Acute effects (systemic)	Chronic effects (local)	Chronic effects (systemic)
Paraquat-dichloride	Inhalation	No data available	No data available	No data available	0.0864 mg/m ³
	Oral	No data available	No data available	No data available	No data available
	Dermal	No data available	No data available	No data available	No data available

◆ Predicted No Effect Concentration (PNEC)


Component	A	B	C	D	E	F	G	H
Paraquat-dichloride	29 ng/L	5.23 µg/L	296.2 µg/L	1.381 mg/kg sediment dw	138.1 µg/kg sediment dw	No hazard identified	13 µg/kg soil dw	No potential for bioaccumulation
Note : A: Freshwater; B: Seawater; C: Sewage treatment plant; D: Sediment (freshwater); E: Sediment (seawater); F: Air; G: Soil; H: Secondary poisoning(Hazard for Predators).								

8.2 Exposure controls

8.2.1 Engineering controls

1	Ensure adequate ventilation, especially in confined areas.
2	Ensure that eyewash stations and safety showers are close to the workstation location.
3	Use explosion-proof electrical/ventilating/lighting/equipment.
4	Set up emergency exit and necessary risk-elimination area.

8.2.2 Personal protection equipment

General requirement	
Eye protection	Must wear appropriate anti-corrosion goggles.
Hand protection	Must wear acid and alkali resistant chemical protective gloves.
Respiratory protection	Must wear appropriate personal dust proof gas mask.
Skin and body protection	Must wear acid and alkali resistant chemical protective clothing.

8.2.3 Environmental exposure controls

Environmental exposure controls	No information available
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9 Physical and chemical properties

9.1 Information on basic physical and chemical properties

Physical state	White to yellow crystalline solid
Colour	White to yellow crystalline solid
Odor	No information available
Odor threshold	No information available
pH	> =11.5 (Strong base)
Melting point/freezing point(°C)	175~180
Initial boiling point and boiling range(°C)	300
Flash point(Closed cup, °C)	Not applicable
Evaporation rate	Not applicable
Flammability	No information available
Upper/lower explosive limits[%(v/v)]	Upper limit : No information available ; Lower limit : No information available
Vapor pressure	< 1.0E-4Pa

Vapor density(Air = 1)	Not applicable
Relative density(Water=1)	1.24
Solubility	620g/L
n-octanol/water partition coefficient	-4.5
Auto-ignition temperature(°C)	No information available
Decomposition temperature(°C)	300 (Calculated)
Kinematic viscosity	Not applicable
Explosive properties	No information available
Oxidizing properties	No information available
Particle characteristics	No information available

9.2 Other information

9.2.1 Information with regard to physical hazard classes

Information with regard to physical hazard classes	No information available
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9.2.2 Other safety characteristics

Other safety characteristics	No information available
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10 Stability and reactivity

Stability and reactivity

10.1 Reactivity	Contact with incompatible substances can cause decomposition or other chemical reactions.
10.2 Chemical stability	Stable under proper operation and storage conditions.
10.3 Possibility of hazardous reactions	No information available.
10.4 Conditions to avoid	Incompatible materials, heat, flame and spark.
10.5 Incompatible materials	No information available.
10.6 Hazardous decomposition products	Under normal conditions of storage and use, hazardous decomposition products should not be produced.

11 Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008 with amendment 2023/707

Paraquat-dichloride(Component)	
Skin corrosion/irritation	Causes severe skin burns and eye damage(Category 1)
Serious eye damage/irritation	Causes serious eye damage(Category 1)
Skin sensitization	Based on available data, the classification criteria are not met
Respiratory sensitization	Based on available data, the classification criteria are not met
Reproductive toxicity	Based on available data, the classification criteria are not met
STOT-single exposure	May cause respiratory irritation(Category 3)
STOT-repeated exposure	Causes damage to organs through prolonged or repeated exposure(Category 1)
Aspiration hazard	Based on available data, the classification criteria are not met
Germ cell mutagenicity	Based on available data, the classification criteria are not met

| Acute toxicity

Component	LD ₅₀ (oral)	LD ₅₀ (dermal)	LC ₅₀ (inhalation,4h)
Paraquat-dichloride	150mg/kg(Rat)	325mg/kg(Rabbit)	No information available

| Carcinogenicity

Component	List of carcinogens by the IARC Monographs	Report on Carcinogens by NTP
Paraquat-dichloride	Not Listed	Not Listed

| 11.2 Information on other hazards**| 11.2.1 Endocrine disrupting properties**

Component	Endocrine disrupting properties
Paraquat-dichloride	No information available

| 11.2.2 Other Information

Other Information	See Section 11.1

12 Ecological information**| 12.1 Toxicity****| Acute aquatic toxicity**

Component	Fish	Crustaceans	Algae or other aquatic plants
Paraquat-dichloride	LC ₅₀ : 6.48mg/L (96h)(Fish)	EC ₅₀ : 6.1mg/L (48h)(Crustaceans)	ErC ₅₀ : 0.06mg/L (96h)(Algae)

| Chronic aquatic toxicity

Component	Fish	Crustaceans	Algae or other aquatic plants
Paraquat-dichloride	NOEC : 0.13mg/L(Fish)	No information available	No information available

| 12.2 Persistence and degradability

Persistence and degradability	No information available

| 12.3 Bioaccumulative potential

Bioaccumulative potential	No information available

| 12.4 Mobility in soil

Component	log Koc	Remark
Paraquat-dichloride	5.608	

| 12.5 Results of PBT and vPvB assessment

Component	Results of PBT and vPvB assessment [according to (EC) No 1907/2006]
Paraquat-dichloride	Not PBT/vPvB

12.6 Endocrine disrupting properties

Component	Endocrine disrupting properties
Paraquat-dichloride	No information available

12.7 Other adverse effects

No information available

13 Disposal considerations

13.1 Waste treatment methods

Waste chemicals	Before disposal should refer to the relevant national and local laws and regulation. Recommend the use of incineration disposal.
Contaminated packaging	Containers may still present chemical hazard when empty. Keep away from hot and ignition source of fire. Return to supplier for recycling if possible.
Disposal recommendations	Refer to section waste chemicals and contaminated packaging.

14 Transport information

Label and Mark

Transporting Label	
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IMDG-CODE

14.1 UN number	2811
14.2 UN proper shipping name	TOXIC SOLID, ORGANIC, N.O.S.
14.3 Transport hazard class	6.1
14.4 Packing group	III
14.5 Environmental hazards (Yes or no)	Yes

IATA-DGR

14.1 UN number	2811
14.2 UN proper shipping name	TOXIC SOLID, ORGANIC, N.O.S.
14.3 Transport hazard class	6.1
14.4 Packing group	III
14.5 Environmental hazards (Yes or no)	Yes

UN-ADR

14.1 UN number	2811
14.2 UN proper shipping name	TOXIC SOLID, ORGANIC, N.O.S.
14.3 Transport hazard class	6.1
14.4 Packing group	III
14.5 Environmental hazards (Yes or no)	Yes

Special precautions for user

	Transit should be anti-exposure, rain, high temperature. Strictly prohibited shipping or transportation with acids, alkalis, oxidants, food and food additives etc. Transport vehicles should be equipped with the appropriate variety and quantity of fire equipment and emergency equipment leakage during transport. Before transport, should be preceded by checking whether container integrity, sealing. The transport unit must be placarded and marked in accordance with relevant transporting requirements.
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Maritime transport in bulk according to IMO instruments

- ◆ Transport in bulk according to Annex II of MARPOL and the IBC code

	Not Available
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- ◆ Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

	Not Available
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- ◆ Transport in bulk in accordance with the IGC Code

	Not Available
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15 Regulatory information

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

International chemical inventory

Component	A	B	C	D	E	F	G	H	I	J	K	L	M
Paraquat-dichloride	√	√	×	×	√	√	√	×	√	×	√	√	√

- [A] China Inventory of Existing Chemical Substances(IECSC)
- [B] European Inventory of Existing Commercial Chemical Substances(EC inventory)
- [C] United States Toxic Substances Control Act Inventory(TSCA)
- [D] Canadian Domestic Substances List(DSL)
- [E] New Zealand Inventory of Chemicals(NZIoC)
- [F] Philippines Inventory of Chemicals and Chemical Substances(PICCS)
- [G] Korea Existing Chemicals Inventory(KECL)
- [H] Australian. Inventory of Industrial Chemical (AIICS)
- [I] Japan Inventory of Existing & New Chemical Substances(ENCS)
- [J] Thailand Existing Chemicals Inventory(TECI)
- [K] Mexico National Inventory of Chemical Substances (INSQ)
- [L] Russia Inventory of Existing Substances(DRAFT)
- [M] Inventory of Existing Chemical Substances in Taiwan, China (TCSI)

List of Chemical Substances under International Conventions

Component	A	B	C
Paraquat-dichloride	×	×	×

- [A] The Montreal Protocol on Substances that Deplete the Ozone Layer
- [B] Stockholm Convention on Persistent Organic Pollutants (POPs)
- [C] Rotterdam Convention on the prior informed consent procedure for certain hazardous chemicals and pesticides in international trade

European chemical inventory

Component	A	B	C	D	E	F	G	H	I
Paraquat-dichloride	×	×	×	√	√	×	×	×	×

- [A] Candidate list of Substances of Very High Concern for authorization under EU REACH regulation
 [B] Substances requiring authorisation under EU REACH regulation
 [C] Substances restricted under EU REACH
 [D] Pre-registered substances under EU REACH
 [E] Registered substances under EU REACH
 [F] Substance Evaluation – CoRAP under EU REACH
 [G] List of priority substances under EU water policy (Directive 2455/2001/EC)
 [H] Substances subject to POPs Regulation
 [I] Substances proposed as POPs

Note:

- “√” Indicates that the substance included in the regulations.
 “x” No data or not included in the regulations.

German water hazard class(WGK)

No information available

German technical instructions on air quality control(TA LUFT)

Component	TA LUFT	Remark
Paraquat-dichloride	Chapter 5.2.5 Organic Substances, class I. The following values are in all not allowed to be exceeded in the exhaust gas: Mass flow: 0,10 kg/hr or Mass conc.: 20 mg/m ³	

German technical rules for hazardous substances(TRGS)

Component	TRGS	Remark
Paraquat-dichloride	TRGS 201 TRGS 400 TRGS 555 TRGS 600 TRGS 401 TRGS 500 TRGS 509 TRGS 510	

15.2 Chemical safety assessment

No Chemical Safety Assessment has been carried out for this substance/mixture by the supplier.

16 Other information

Information on revision

Creation Date	2026/01/26
Revision Date	-
Reason for revision	-

Reference

- [1] IPCS: The International Chemical Safety Cards (ICSC), website: <http://www.ilo.org/dyn/icsc/showcard.home>.
- [2] IARC, website: <http://www.iarc.fr/>.
- [3] OECD: The Global Portal to Information on Chemical Substances, website: <https://www.echemportal.org/echemportal/>.
- [4] CAMEO Chemicals, website: <http://cameochemicals.noaa.gov/search/simple>.
- [5] NLM: ChemIDplus, website: <http://chem.sis.nlm.nih.gov/chemidplus/chemidlite.jsp>.
- [6] EPA: Integrated Risk Information System, website: <http://cfpub.epa.gov/iris/>.
- [7] U.S. Department of Transportation: ERG, website: <http://www.phmsa.dot.gov/hazmat/library/erg>.
- [8] Germany GESTIS-database on hazard substance, website: <http://gestis-en.itrust.de/>.

Abbreviations and acronyms

CAS	Chemical Abstracts Service	UN	The United Nations
PC-STEL	Short term exposure limit	OECD	Organization for Economic Co-operation and Development
PC-TWA	Time Weighted Average	IMDG-	International Maritime Dangerous Goods CODE

		CODE	
MAC	Maximum Allowable Concentration	IARC	International Agency for Research on Cancer
DNEL	Derived No Effect Level	ICAO	International Civil Aviation Organization
PNEC	Predicted No Effect Concentration	IATA	International Air Transportation Association
NOEC	No Observed Effect Concentration	ACGIH	American Conference of Governmental Industrial Hygienists
LC ₅₀	Lethal Concentration 50%	NFPA	National Fire Protection Association
LD ₅₀	Lethal Dose 50%	NTP	National Toxicology Program
EC ₅₀	Effective Concentration 50%	PBT	Persistent, Bioaccumulative, Toxic
EC _x	Effective Concentration X%	vPvB	very Persistent, very Bioaccumulative
P _{OW}	Partition coefficient Octanol: Water	CMR	Carcinogens, mutagens or substances toxic to reproduction
BCF	Bioconcentration factor	RPE	Respiratory Protective Equipment
ED	Endocrine disruptor		

Disclaimer

This Safety Data Sheet (SDS) was prepared according to REACH Regulation. The data included was derived from international authoritative database and provided by the enterprise. Other information was based on the present state of our knowledge. We try to ensure the correctness of all information. However, due to the diversity of information sources and the limitations of our knowledge, this document is only for user's reference. Users should make their independent judgment of suitability of this information for their particular purposes. We do not assume responsibility for loss, damage or expense arising out of or in any way connected with the handling, storage, use or disposal of the product.