




Antiozonant DOX-1

1. CHEMICAL PRODUCT & COMPANY IDENTIFICATION	
Manufacturer DJCHEM Chemicals Poland SA 5-200 WOLOMIN Lukasiewicza 11A, Poland	Emergency Contact Chemtrec: 1-800-424-9300 (USA) (1)330-542-8400 (outside USA)
Trade Name(s): DOX-1 Pastilles	Chemical Name: N'N-diaryl-paraphenylene diamine mixture
Relevant identified uses of the substance or mixture and uses advised against: Not determined	Application of the substance/the preparation: Rubber compounding.
Issued By: Sovereign Chemical Company (Distributor) 4040 Embassy Parkway, Suite 190 Akron, Ohio 44333	Date of Issue: May 1, 2023

2. HAZARDS IDENTIFICATION

Classification of the substance or mixture

Information in accordance with US 29 CFR 1910.1200 (Hazcom 2012), Regulation (EC) No 1272/2008, 1907/2006/EC (REACH), and GHS

Hazard Pictograms (CLP)	:  GHS07,  GHS08,  GHS09
Signal Word	: Warning
Hazard statements (CLP)	: <ul style="list-style-type: none"> H317 – May cause an allergic skin reaction, Category 1 H361 - Suspected of damaging fertility or the unborn child, Category 2 H400 - Very toxic to aquatic life, Category 1 H410 - Very toxic to aquatic life with long lasting effects, Category 1
Precautionary statements (CLP)	: <ul style="list-style-type: none"> P261 – Avoid breathing dust/fume/gas/mist/vapors/spray P272 - Contaminated work clothing should not be allowed out of the workplace P280 - Wear protective clothing, eye protection, face protection, protective gloves P302+P352 - IF ON SKIN: Wash with plenty of soap and water P321 – Specific treatment (see supplemental first aid instructions on this label) P333+ P313 - If skin irritation or rash occurs: Get medical advice/attention P363 - Wash contaminated clothing before reuse P501 - Dispose of contents/ container to an approved waste disposal plant P201 - Obtain special instructions before use P202 - Do not handle until all safety precautions have been read and understood

P281 - Use personal protective equipment as required
 P308+P313 - IF exposed or concerned: Get medical advice/attention
 P405 – Store locked up
 P273 - Avoid release to the environment
 P391 - Collect spillage. Hazardous to the aquatic environment
 Other Hazard : Substance is not classified as a PBT or vPvB

3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance/Mixture: Substance

Chemical Name	CAS No	EC No	Weight %	Classification
1,4-Benzenediamine, N,N'-mixed Ph and tolyl derivs.	68953-84-4	68953-84-4	>85%	H317 – May cause an allergic skin reaction, Category 1 H361- Suspected of damaging fertility or the unborn child, Category 2 H400 - Very toxic to aquatic life, Category 1 H410 - Very toxic to aquatic life with long lasting effects, Category 1

Impurities: Diphenylamine <1% (CAS: 122-39-4 / EC: 204-539-4)

4. FIRST AID MEASURES

Description of first aid measures

First-aid measures general:	In all cases of doubt, or when symptoms persist, seek medical attention
First-aid measures after inhalation:	Remove to fresh air, keep warm and calm. In case of some symptoms consult a doctor – show the container or label.
First-aid measures after skin contact:	Take off contaminated clothes. Wash out skin with plenty of water with soap. Consult a doctor if symptoms persist.
First-aid measures after eye contact:	Wash out with plenty of water with the eyelid held wide open, for 10-15 min. Remove any contact lenses. Avoid powerful water stream – risk of cornea damage. Obtain medical attention immediately.
First-aid measures after ingestion:	Rinse mouth with water; give plenty of water to drink. Consult a doctor – show the container or label. Do not give anything to drink to an unconscious person.

Most important symptoms and effects, both acute and delayed

Symptoms effects:

Skin contact: irritation, burns in case of long-term or repeating exposure, may cause allergic reaction. Eye contact: mechanical irritation, redness, tearing.

Inhalation: may cause irritation of mucosal membrane of respiratory system, caught. Ingestion: stomach pain, nausea, vomiting.

Other effects of exposure: suspected of damaging fertility or the unborn child.

Indication of any immediate medical attention and special treatment needed

General:

Physician decides regarding further medical treatment after thorough examination of the injured.

5. FIRE FIGHTING MEASURES*Extinguishing media*

Suitable extinguishing agents:

Dry extinguishing, carbon dioxide, water spray. Use extinguishing measures that are appropriate to the environment.

Unsuitable extinguishing agents:

Water jet – risk of the propagation of the flame.

Special hazards arising from the substance or mixture

General:

May produce toxic fumes, e.g., carbon oxide and nitrogen oxide if burning. Do not inhale combustion products – it can be dangerous for health.

Advice for firefighters

General:

Personal protection is typical in case of fire. Self-contained breathing apparatus and protective clothing should be worn.

6. ACCIDENTAL RELEASE MEASURES*Personal precautions, protective equipment and emergency procedures*

General:

Limit access for the outsiders into the breakdown area, until the suitable cleaning operations are completed. Wear adequate personal protective equipment. Avoid contact with skin and eyes. Ensure adequate ventilation. Avoid form and inhalation dusts.

Environmental precautions

General: In case of release of large amounts of the product, it is necessary to take appropriate steps to prevent it from spreading into the environment. Notify relevant emergency services.

Methods and material for containment and cleaning up

General: Collect spilled material in containers. Avoid forming dust. Disposal in accordance with the local legislation. Clean the contamination place by solvents, e.g. acetone, toluene, xylene (use in accordance with good occupational hygiene and safety practices), and afterwards by water.

Reference to other sections

General: See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for information on disposal.

7. HANDLING AND STORAGE*Precautions for safe handling*

Protective measures: Put on appropriate personal protective equipment (see section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid release to the environment. If during normal use the material presents a respiratory hazard, use only with adequate ventilation or wear appropriate respirator. Keep in the original container or an approved alternative made from compatible material, kept tightly closed when not in use. Keep away from acids. Empty containers retain product residue and can be hazardous.

Conditions for safe storage, including any incompatibilities

Storage: Keep only in original, tightly closed containers in dry, cool, and well-ventilated place. Protect against humidity and heating above 50°C. Keep away from fire sources. Take action to prevent static discharges. Keep away from food, beverages, or feed for animals. Recommended material for packages: PE 25 kg, big bags 1 000 kg.

Specific end use(s)

General: See the adequate Exposure Scenario: Formulation of DAPD – ES 1
Anti-oxidant use for manufacturing of tires and retreading – ES 2

Anti-oxidant use for manufacturing of general rubber foods (GRG)
 – ES 3 Anti-oxidant use during the service life of tires -mounting and dismounting tires – ES 4 Anti-oxidant use during the service life of GRG -maintenance of GRG articles – ES 5 Anti-oxidant use during the service life of tires – ES 6 Anti-oxidant use during the service life of GRG- ES 7 Anti-oxidant use during end of life tire

8. EXPOSURE CONTROLS - PERSONAL PROTECTION

Control Parameters

Occupational exposure limits: Not available

Additional exposure limits: Not available

DNEL /DMEL and PNEC Values

Workers - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=1.297 mg/m ³
Workers - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=0.307 mg/kg bw/day
Workers - Hazard via dermal route	Local effects-Long term exposure	DNEL=0.027 mg/kg bw/day
General Population - Hazard via inhalation route	Systemic effects-Long term exposure	DNEL=0.32 mg/m ³
General Population - Hazard via dermal route	Systemic effects-Long term exposure	DNEL=0.153 mg/kg bw/day
General Population - Hazard via dermal route	Local effects-Long term exposure	DNEL=0.014mg/kg bw/day
General Population - Hazard via oral route	Systemic effects-Long term exposure	DNEL=0.16 mg/kg bw/day
Hazard for aquatic organisms	Freshwater	0 mg/L
Hazard for aquatic organisms	Marine water	0 mg/L
Hazard for aquatic organisms	STP	0.2 mg/L
Hazard for aquatic organisms	Sediment (freshwater)	6.15 mg/kg
Hazard for aquatic organisms	Sediment (marine water)	0.615 mg/kg
Hazard for terrestrial organisms	Soil	1 mg/kg
Hazard for predators	Secondary poisoning	10.33 mg/kg

Exposure controls

Appropriate engineering controls: Use the product in accordance with good occupational hygiene and safety practices. When handlings do not eat, drink or smoke. Before break and after work carefully wash hands. Avoid skin and eyes contamination.

Eye/face protection:	Use safety glasses (goggles) in case of dust.
Hand and body protection:	<p>Use gloves from PCV or rubber. Use natural protective clothing materials (cotton) or synthetic fibers and protective footwear.</p> <p>The material that the gloves are made of must be impenetrable and resistant to the product's effects. The selection of material must be performed with consideration of breakthrough time, penetration speed and degradation. Moreover, the selection of proper gloves depends not only on the material, but also on other quality features and changes depending on the manufacturer. The producer should provide detailed information regarding the exact breakthrough time. This information should be followed.</p>
Respiratory protection:	Not required. In case of forming dust use dust mask. Personal protective equipment must meet requirements of regulation (EU) 2016/425. Employer is obliged to ensure equipment adequate for activities carried out, with quality demands, cleaning and maintenance.
Thermal hazard:	Not available.
Environmental exposure controls:	Do not allow the large quantity of mixture to contaminate surface water/ground water.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Form: Solid	Melting Point/Range: 87-105°C
Color: Gray-brown	Boiling Point/Range: Not applicable
Odor: Aromatic	Odor threshold: Not determined
pH: Not applicable	Flash point: Not applicable
Vapor Pressure: Not applicable	Flammability (solid, gaseous): Product is not flammable
Density at 20 °C: 1.0-1.2 g/cm ³	Ignition temperature: Not determined

Relative density: Not determined	Decomposition temperature: Not determined
Vapor Density: Not applicable	Self-igniting: Not determined
Evaporation rate: Not applicable	Danger of explosion: Product does not present an explosion hazard
Solubility in / Miscibility with water: Insoluble	Partition coefficient (n-octanol/water): 3.4-4.3
Viscosity Dynamic: Not applicable Kinematic: Not applicable	Explosion limits Lower: Not determined Upper: Not determined

Other information:

No further relevant information available.

10. STABILITY AND REACTIVITY

Reactivity

It reacts with strong oxidization.

Chemical stability

The product is stable.

Possibility of hazardous reactions

None.

Conditions to avoid

High temperature, humidity, oxygen.

Incompatible materials

Strong oxidizers.

Hazardous decomposition products

None.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects

Acute toxicity (oral, rat):

LD50 > 5,000 mg/kg bw.

Acute toxicity (dermal, rabbit):

LD50 ca 2,000 mg/kg bw.

Skin corrosion/irritation:

Based on available data, the classification criteria are not met.

Serious eye damage/irritation:	Based on available data, the classification criteria are not met.
Respiratory or skin sensitization:	Based on available data, the classification criteria are not met.
Germ cell mutagenicity:	Negative - Based on available data, the classification criteria are not met.
Carcinogenicity:	NOAEC 1,900 mg/kg - Based on available data, the classification criteria are not met.
Reproductive toxicity:	<p>The effects of derivatives on fertility and reproductive toxicity were studied in a two-generation study on rats at dose levels of 120, 400 and 1500 ppm in the diet. No reproductive toxicity was observed in males from generations F0 and F1 up to 1500 ppm, but changes were observed at various dose levels in female rats in all generations.</p> <p>Suspected of damaging fertility or the unborn child.</p>
STOT single exposure:	Based on available data, the classification criteria are not met.
STOT multiple exposure:	Based on available data, the classification criteria are not met.
Aspiration hazard:	Based on available data, the classification criteria are not met.
Information on toxicological effects	Endocrine disrupting properties: Not known.

12. ECOLOGICAL INFORMATION

Toxicity

Acute (short-term) toxicity:	EC50(4 days, Fish): 0.48 mg/l
Acute (short-term) toxicity:	EC50(48h, Daphnia magna): 1.1-1.8 mg/l
Acute (short-term) toxicity:	EC50(72h, Algae/aquatic plants): >0.079 mg/l
Chronic (long-term) toxicity:	NOEC(14 days, Fish): 0.14 mg/l
Chronic (long-term) toxicity:	EC10(21 days, Daphnia magna): 0.0045 mg/l
Chronic (long-term) toxicity:	NOEC(28 days, sludge): cca. 615.2 mg/l

Persistence and degradability

Information: Product is not biodegradable in water. It can be biodegradable in soil (t_{1/2} – 66.5 days).

Bioaccumulation potential

Information: Product has bioaccumulative potential (BCF: 20-10 900).

Mobility in soil

Information: Product is low mobile in soil. It is not soluble in water.

Results of PBT and vPVB assessment

Information: None.

Other adverse effects

Information: This product has no influence on global warming or ozone layer depletion.

13. DISPOSAL CONSIDERATIONS*Waste treatment methods*

Methods: Disposal in accordance with the local legislation. Do not remove household garbage. Store remaining in original containers. Recycle, if possible. Empty containers are given for an appropriate rubbish dump or for disposal in accordance with the local legislation

14. TRANSPORTATION INFORMATION

UN-Number	3077
DOT, ADN, IATA, RID	3077, classification code: M7, hazard distinctive
ADR	identification number: 90
IMDG	3077, EmS code: F-A, S-F
UN proper shipping name	ENVIRONMENTALLY HAZARDOUS SUBSTANCES,
DOT, ADR, ADN, IMDG, IATA, RID	SOLID, N.O.S. (DAPD)
Transport hazard class(es)	
DOT, ADR, ADN, IMDG, IATA, RID	9

Packing group
DOT, ADR, ADN, IMDG, IATA, RID III

Environmental hazards
Marine pollutant Yes

Special precautions for user
Wear adequate personal protective equipment.

Transport in bulk according to Annex II of
MARPOL73/78 and the IBC Code Not applicable.
UN "Model Regulation"

15. REGULATORY INFORMATION

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

SARA Section 355 (extremely hazardous substances)	Not listed
SARA Section 313 (Specific toxic chemical listings)	Not listed
TSCA (Toxic Substances Control Act)	Listed
Proposition 65 (California)	
Chemicals known to cause cancer	Not listed
Chemicals known to cause reproductive toxicity for females	Not listed
Chemicals known to cause reproductive toxicity for males	Not listed
Chemicals known to cause developmental toxicity	Not listed
Carcinogenic Categories	
IARC (International Agency for Research on Cancer)	Not listed
TLV (Threshold Limit Value established by ACGIH)	Not listed
NIOSH-Ca (National Institute for Occupational Safety and Health)	Not listed
OSHA-Ca (Occupational Safety & Health Administration)	Not listed
Canada	
Canadian Domestic Substances List (DSL)	Listed
Canadian Ingredient Disclosure list (limit 0.1%)	Not listed
Canadian Ingredient Disclosure list (limit 1%)	Not listed
REACH	
REACH Candidate List	Not listed
REACH XIV List	Not listed

Chemical safety assessment: A Chemical Safety Assessment has been carried out.

16. OTHER INFORMATION

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.