



## SAFETY DATA SHEET

In compliance with EC Regulations No.: 1907/2006 and 453/2010.

Date last modified: 06 January 2015 - version 4.0

### 1. IDENTIFICATION OF THE SUBSTANCE/PREPARATION AND OF THE COMPANY

#### **1.1 Product Identifier**

**Product Name:** DCWT POWDER

**Product Code #:** 672505 (25 kg)

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

**Product Uses:** Industrial applications; Corrosion inhibitor for cooling water treatment.

**Uses advised against:** This product is not recommended for any industrial, professional or consumer use other than the Intended Uses above.

#### **1.3 Details of the supplier of the safety data sheet**

##### **Company/undertaking identification**

##### **Supplier/Manufacturer:**

Marichem Marigases Hellas SA

Sfaktirias 64,

185 45 Piraeus,

Greece

Tel. No.: ++30 210 4148800

Fax No.: ++30 210 4133985

<http://www.marichem-marigases.com>

**e-mail:** [mail@marichem-marigases.com](mailto:mail@marichem-marigases.com)

#### **1.4 Emergency telephone number**

Tel. No.: ++30 210 4148800 (including working hours)

##### **Emergency Information:**

Inside U.S. and Canada: (800)-424-9300 (CHEMTREC)

Outside U.S. and Canada: 1-703-527-3887 (CHEMTREC)

National Emergency Centre (Greece): ++30 210 7793777

## 2. HAZARDS IDENTIFICATION

### 2.1 Classification of the mixture

Classification under EC 1272/2008 regulation - GHS classification.

Acute Tox. 4 (oral)

Eye Dam./Irrit. 2

Aquatic Acute 1

**SIGNAL WORD: DANGER**



**GHS07**



**GHS09**

**Hazard Statement(s):**

H319: Causes serious eye irritation.

H302: Harmful if swallowed.

H400: Very toxic to aquatic life.

### 2.2 Label Elements

**Labelling according to Regulation (EC) No. 1272/2008.**

The substance is classified and labelled according to the CLP Regulation.

**Hazard Pictograms**



**GHS07**



**GHS09**

**Signal Word: DANGER**

**Hazard Statements**

H319: Causes serious eye irritation.

H302: Harmful if swallowed.

H400: Very toxic to aquatic life.

**Precautionary Statements**

**Prevention:**

P273: Avoid release to the environment.

P280: Wear protective gloves and eye/face protection.

P270: Do not eat, drink or smoke when using this product.

P264: Wash with plenty of water and soap thoroughly after handling.

P220: Keep/Store away from clothing/combustible materials.

**Response:**

P310: 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.

P301 + P330: IF SWALLOWED: Rinse mouth.

P391: Collect spillage.

P337 + P311: If eye irritation persists: Call a POISON CENTER or doctor/physician.

P370 + P378.4: In case of fire: Use water spray for extinction.

**Storage:**

P405: Store locked up.

P420: Store away from other materials.

**Disposal:**

P501 Dispose of contents/container to hazardous or special waste collection point.

**Product classification and labelling according to Directive 67/548/EEC, European [Dangerous Preparations Directive](#) (1999/45/EC), European Regulation 648/2004 and their amendments.**

Symbol: T, N



Toxic (T)



Dangerous for the Environment (N)

**Risk Phrases (R-phrases):**

R25: Toxic if swallowed.

R50: Very toxic to aquatic organisms.

**Safety Phrases (S-phrases):**

S1/2: Keep locked up and out of the reach of children.

S45: In case of accident or if you feel unwell seek medical advice immediately (show the label where possible).

S61: Avoid release to the environment. Refer to special instructions/Material Safety Data Sheets (MSDS).

**2.3. Other hazards**

According to Regulation (EC) No 1272/2008 [CLP]

No specific dangers known, if the regulations/notes for storage and handling are considered.

### 3. COMPOSITION/INFORMATION ON INGREDIENTS

#### Chemical Composition:

Ingredients	CAS Number	Proportion	Hazard Code(s)*
Sodium Nitrite	7632-00-0	50-80%	H301; H319; H400; H272.
Ingredients that do not contribute to the classification of the product	-	20-50%	-

\*See section 16 for the full text of the Hazard Code(s) declared above.

Occupational Exposure Limits, if available, are listed in section 8.

### 4. FIRST AID MEASURES

#### 4.1. Description of first aid measures

If danger of loss of consciousness, place patient in recovery position and transport accordingly. Apply artificial respiration if necessary.

If inhaled:

After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid. Immediately administer a corticosteroid from a controlled/metered dose inhaler.

On skin contact:

Wash thoroughly with soap and water.

On contact with eyes:

Immediately wash affected eyes for at least 15 minutes under running water with eyelids held open, consult an eye specialist.

On ingestion:

Rinse mouth immediately and then drink plenty of water, induce vomiting, seek medical attention.

#### 4.2. Most important symptoms and effects, both acute and delayed

Symptoms: Overexposure may cause: vomiting, convulsions, cyanosis, death, coma, methaemoglobinaemia, nausea.

Hazards: Risk of pulmonary oedema. Symptoms can appear later. Danger of methaemoglobin formation after ingestion.

#### 4.3. Indication of any immediate medical attention and special treatment needed

Treatment: Treat according to symptoms (decontamination, vital functions), treat with toluonium chloride to reverse methaemoglobinanaemia.

## **5. FIRE-FIGHTING MEASURES**

### **5.1. Extinguishing media**

Suitable extinguishing media: water spray

Unsuitable extinguishing media for safety reasons: ABC powder, carbon dioxide

### **5.2. Special hazards arising from the substance or mixture**

Nitrogen Oxides.

The substances/groups of substances mentioned can be released in case of fire. Has a fire promoting effect due to release of Oxygen.

### **5.3. Advice for fire-fighters**

Special protective equipment: Wear a self-contained breathing apparatus.

## **6. ACCIDENTAL RELEASE MEASURES**

### **6.1. Personal precautions, protective equipment and emergency procedures**

Use breathing apparatus if exposed to vapours/dust/aerosol. Avoid contact with eyes.

### **6.2. Environmental precautions**

Do not discharge into the subsoil/soil. Do not discharge into waterways or sewer systems without proper authorization.

### **6.3. Methods and material for containment and cleaning up**

For residues: Pick up with suitable appliance and dispose of.

### **6.4. Reference to other sections**

Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

## **7. HANDLING AND STORAGE**

### **7.1. Precautions for safe handling**

Keep container tightly sealed. Breathing must be protected when large quantities are decanted without local exhaust ventilation. Processing machines must be fitted with local exhaust ventilation. Protect against moisture. Protect against heat. Do not mix with combustible substances. Handle in accordance with good industrial hygiene and safety practice.

Protection against fire and explosion:

The substance/product is non-combustible. Has a fire-promoting effect due to release of oxygen. Where required Prevent electrostatic charge - sources of ignition should be kept well clear - fire extinguishers should be kept handy.

### **7.2. Conditions for safe storage, including any incompatibilities**

Segregate from oxidizable substances. Segregate from acids. Segregate from ammonium salts.

Further information on storage conditions: Keep container tightly closed and in a well-ventilated place. This product is classified as a dangerous substance for storage. The authority permits and storage regulations must be observed. Keep away from food, drink and animal feeding stuffs.

### 7.3. Specific end use(s)

For the relevant identified use(s) listed in Section 1 the advice mentioned in this section 7 is to be observed.

## 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

### Name of Substance: Sodium Nitrite

#### 8.1. Control parameters

##### PNEC

freshwater: 0.0054 mg/l

marine water: 0.00616 mg/l

intermittent release: 0.0054 mg/l

sediment (freshwater): 0.0195 mg/kg

sediment (marine water): 0.0223 mg/kg

soil: 0.000733 mg/kg

STP: 21 mg/l

##### DNEL

worker:

Long- and short-term exposure - systemic effects, Inhalation: 2 mg/m<sup>3</sup>

#### 8.2. Exposure controls

##### Personal protective equipment

##### Respiratory protection:

Breathing protection if dusts are formed. Particle filter with high efficiency for solid and liquid particles (e.g. EN 143 or 149, Type P3 or FFP3).

##### Hand protection:

Chemical resistant protective gloves (EN 374)

Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):

polyvinylchloride (PVC) - 0.7 mm coating thickness

nitrile rubber (NBR) - 0.4 mm coating thickness

chloroprene rubber (CR) - 0.5 mm coating thickness

butyl rubber (butyl) - 0.7 mm coating thickness

fluoroelastomer (FKM) - 0.7 mm coating thickness

Supplementary note: The specifications are based on tests, literature data and information of glove manufacturers or are derived from similar substances by analogy. Due to many conditions (e.g. temperature) it must be considered, that the practical usage of a chemical-protective glove in practice may be much shorter than the permeation time determined through testing.

Manufacturer's directions for use should be observed because of great diversity of types.

##### Eye protection:

Safety glasses with side-shields (frame goggles) (e.g. EN 166)

##### General safety and hygiene measures

Handle in accordance with good industrial hygiene and safety practice. Do not breathe dust. Keep

away from food, drink and animal feeding stuffs. No eating, drinking, smoking or tobacco use at the place of work. Take off immediately all contaminated clothing. Hands and/or face should be washed before breaks and at the end of the shift.



## 9. PHYSICAL AND CHEMICAL PROPERTIES

### 9.1. Information on basic physical and chemical properties

#### 9.1.1. Appearance

**Physical State:** Crystalline, Granulated Powder

**Color:** Light Yellow

**Odor:** Odorless

#### 9.1.2. Basic data

**Boiling Point:** Not Available, decomposes

**Freezing Point:** Not Available

**pH (1% solution):** 9.5 - 10

**Flash Point:** Not Applicable

**Autoignition Temperature:** Not Available

**Lower Explosion Limit (vol %):** Not Available

**Upper Explosion Limit (vol %):** Not Available

**Vapour Pressure:** Not Available

**Relative vapor density (air=1):** Not Applicable

**Solubility:** Soluble in water

**Specific Gravity (gr/cm<sup>3</sup>):** 1.15 - 1.20 at 15°C

**9.2 Other Information:** No further relevant information available.

## 10. STABILITY AND REACTIVITY

### 10.1. Reactivity

No hazardous reactions if stored and handled as prescribed/indicated.

### 10.2. Chemical stability

The product is chemically stable.

### 10.3. Possibility of hazardous reactions

Hazardous reactions in presence of mentioned substances to avoid.

### 10.4. Conditions to avoid

See SDS section 7 - Handling and storage.

### 10.5. Incompatible materials

Substances to avoid:

reducing agents, oxidizable substances, ammonium salts, amines, amine compounds, acids.

### 10.6. Hazardous decomposition products

Hazardous decomposition products:

Disodium Oxide, Nitrogen Oxides.

## 11. TOXICOLOGICAL INFORMATION

**Name of Substance: Sodium Nitrite**

### 11.1. Information on toxicological effects

Acute toxicity

Assessment of acute toxicity:

Of high toxicity after single ingestion. There is a risk of damage to the blood (methemoglobinemia) after a single uptake.

Experimental/calculated data:

LD50 rat (oral): 180 mg/kg

(by inhalation): Study scientifically not justified.

(dermal): Study scientifically not justified.

Irritation

Assessment of irritating effects:

Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:

Skin corrosion/irritation rabbit: non-irritant (OECD Guideline 404)

Serious eye damage/irritation rabbit: Irritant. (OECD Guideline 405)

Respiratory/Skin sensitization

Assessment of sensitization:

There is no evidence of a skin-sensitizing potential.



Experimental/calculated data:  
Study scientifically not justified.

Germ cell mutagenicity  
Assessment of mutagenicity:  
The data available on mutagenic action are not consistent.

Carcinogenicity  
Assessment of carcinogenicity:  
In long-term studies in rats and mice in which the substance was given by drinking-water, a carcinogenic effect was not observed. Under certain conditions nitrites can enhance the formation of nitrosamines in vivo. Nitrosamines are carcinogenic in animal studies.

Reproductive toxicity  
Assessment of reproduction toxicity:  
The results of animal studies gave no indication of a fertility impairing effect.

Developmental toxicity  
Assessment of teratogenicity:  
In animal studies the substance did not cause malformations. Animal studies gave no indication of a developmental toxic effect at doses that were not toxic to the parental animals. After the uptake of small doses toxicity to development will not be expected in humans.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure)  
Assessment of repeated dose toxicity:  
After repeated administration the prominent effect is damage of the blood (methemoglobin formation).

Aspiration hazard  
No aspiration hazard expected.

## 12. ECOLOGICAL INFORMATION

**Name of Substance: Sodium Nitrite**

### 12.1. Toxicity

Assessment of aquatic toxicity:  
Very toxic (acute effect) to aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish:  
LC50 (96 h) 0.54 - 26.3 mg/l, *Salmo gairdneri*, syn. *O. mykiss* (Flow through.)

Aquatic invertebrates:  
LC50 (96 h) 4.93 mg/l, aquatic crustacea (static)  
Literature data.  
EC50 (48 h) 15.4 mg/l, *Daphnia magna* (OECD Guideline 202, part 1, static)  
The statement of the toxic effect relates to the analytically determined concentration.

Aquatic plants:  
EC50 (72 h) > 100 mg/l (growth rate), *Scenedesmus subspicatus* (OECD Guideline 201, static)  
The statement of the toxic effect relates to the analytically determined concentration.

Microorganisms/Effect on activated sludge:

EC10 (3 h) 210 mg/l, activated sludge, domestic (OECD Guideline 209, static)

The details of the toxic effect relate to the nominal concentration.

EC50 (48 h) 421 mg/l, protozoa (other, static)

Chronic toxicity to fish:

No observed effect concentration (31 d) 6.16 mg/l, *Ictalurus punctatus*, syn: *I. robustus* (Flow through.)

Chronic toxicity to aquatic invertebrates:

No observed effect concentration (80 d) 9.86 mg/l, aquatic crustacea (*Daphnia* test chronic, static)

Assessment of terrestrial toxicity:

Study scientifically not justified.

## **12.2. Persistence and degradability**

Assessment biodegradation and elimination (H<sub>2</sub>O):

Inorganic product which cannot be eliminated from water by biological purification processes. Can be oxidized to nitrate, or be reduced to nitrogen, by microorganisms.

Assessment of stability in water:

Study technically not feasible.

## **12.3. Bioaccumulative potential**

Assessment bioaccumulation potential:

Accumulation in organisms is not to be expected.

## **12.4. Mobility in soil**

Assessment transport between environmental compartments:

Adsorption to solid soil phase is not expected.

## **12.5. Results of PBT and vPvB assessment**

According to Annex XIII of Regulation (EC) No.1907/2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH): The product does not fulfill the criteria for PBT (Persistent/bioaccumulative/toxic) and vPvB (very persistent/very bioaccumulative). Self classification.

## **12.6. Other adverse effects**

The substance is not listed in Regulation (EC) 1005/2009 on substances that deplete the ozone layer.

## **12.7. Additional information**

Other ecotoxicological advice:

Do not allow to enter soil, waterways or waste water channels. Do not release untreated into natural waters. Inhibition of degradation activity in activated sludge is not to be anticipated during correct introduction of low concentrations.

## 13. DISPOSAL CONSIDERATIONS

### 13.1. Waste treatment methods

Contact manufacturer regarding recycling.  
Check for possible recycling.  
Contact waste centre regarding recycling.

Contaminated packaging:  
Contaminated packaging should be emptied as far as possible and disposed of in accordance with official regulations after being thoroughly cleaned.

## 14. TRANSPORT INFORMATION

### 14.1 Proper shipping name: Toxic Solid, Inorganic NOS (Sodium Nitrite)

### 14.2 LAND TRANSPORT

UN number:	3288	RID-class:	6,1
ADR class:	6,1		

### 14.3 SEA TRANSPORT

UN number:	3288	EmS: F-A, S-A
IMDG class:	6,1	
IMDG packing group:	III	

### 14.3 AIR TRANSPORT

UN number:	3288		
IATA/ICAO class:	6,1	Packing group:	III

## 15. REGULATORY INFORMATION

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

If other regulatory information applies that is not already provided elsewhere in this safety data sheet, then it is described in this subsection.

### 15.2 Chemical Safety Assessment

A CSA has been carried out for the raw materials in this product, from the raw materials manufacturers (when needed to be carried out).

## 16. OTHER INFORMATION

### **16.1 Full text of Hazard Code(s) referred in Section 3**

H319: Causes serious eye irritation.

H301: Toxic if swallowed.

H400: Very toxic to aquatic life.

H272: May intensify fire; oxidizer.

### **16.2 Abbreviations and acronyms**

ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road).

RID: Règlement international concernant le transport des marchandises dangereuses par chemin de fer (Regulations Concerning the International Transport of Dangerous Goods by Rail).

IMDG: International Maritime Code for Dangerous Goods.

IATA: International Air Transport Association.

ICAO: International Civil Aviation Organization.

bw: Body weight.

Carc.: Carcinogenicity.

CAS number: Chemical Abstracts Service number.

CLP: Classification Labelling Packaging Regulation.

CSA: Chemical Safety Assessment.

CSR: Chemical Safety Report.

DNEL: Derived No Effect Level.

dw: Dry weight.

EC number: EINECS and ELINCS number.

EC: European Commission.

EC50: Half maximal effective concentration.

EINECS: European Inventory of Existing Commercial Chemical Substances.

ELINCS: European List of Notified Chemical Substances.

EmS: Emergency Schedule.

ERC: Environmental Release Category.

ES: Exposure scenario.

food: oral feed.

GHS: Globally Harmonized System of Classification and Labelling of Chemicals.

Irrit.: Irritation.

LC50: Lethal concentration, 50 %.

LD50: Median Lethal dose.

LOAEC: Lowest Observed Adverse Effect Concentration.

LOAEL: Lowest Observed Adverse Effect Level.

MK value: Maximum Concentration value.

NCO: An international corporation that provides customer service contracting.

NOAEC: No Observed Adverse Effect Concentration.

NOAEL: No Observed Adverse Effect Level.

NOEC: No Observed Effect Concentration.

OECD: Organisation for Economic Cooperation and Development.

PBT: Persistent, Bioaccumulative and Toxic.

PNEC: Predicted No Effect Concentration.

PROC: Process category.

REACH: The Registration, Evaluation, Authorisation and Restriction of Chemicals.

Resp.: Respiratory.

Sens.: Sensitization.

STEL value: Short Term Exposure Limit value.

STOT RE: Specific target organ toxicity — repeated exposure.

STOT SE: Specific target organ toxicity — single exposure.

STOT: Specific Target Organ Toxicity.

STP: Sewage Treatment Plant.

SU: Sector of use.

Tox.: Toxicity.

TWA value: Time Weighted Average value.

vPvB: Very Persistent and Very Bioaccumulative.

### **16.3 Notice to reader**

All information, instructions and statements contained in this Material Safety Data Sheet are compiled in accordance with European Directives, corresponding national legislation and on the basis of information given by our suppliers.

The information disclosed in this Material Safety Data Sheet (which supersedes all previous versions) is believed to be correct, at the date of issue, to the best of our current knowledge and experience. It only relates to the specific product designated herein and it may not be valid when said product is used in combination with any other products or in any processed form, unless specified in the text. This document aims to provide the necessary health and safety information of the product and is not to be considered a warranty or quality specification. It is the responsibility of the recipient of this Material Safety Data Sheet to ensure that information given here is read and understood by all who use, handle, dispose of or in any way come in contact with the product.

Also, it is the responsibility of the user to comply with local legislation relating to safety, health, environment and waste management. Data and information provided concerning the product are informative, exclusively presented to the customer.