

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090  
 Revision date: 15/12/2022  
 Supersedes version of: 22/10/2020  
 Version: 3.0

### Danger



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

### **1.1. Product identifier**

|                               |              |                  |
|-------------------------------|--------------|------------------|
| Trade name                    | :            | Nitrogen dioxide |
| SDS no                        | :            | 090              |
| Other means of identification | :            | Nitrogen dioxide |
|                               | CAS-No.      | : 10102-44-0     |
|                               | EC-No.       | : 233-272-6      |
|                               | EC Index-No. | : 007-002-00-0   |
| REACH registration No         | :            | 01-2120770753-48 |
| Chemical formula              | :            | NO <sub>2</sub>  |

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

|                          |   |  |
|--------------------------|---|--|
| Relevant identified uses | : | Industrial and professional uses. Perform risk assessment prior to use.<br>Test gas/Calibration gas.<br>Chemical reaction / Synthesis.<br>Laboratory use.<br>Contact supplier for more information on uses.<br>Industrial use. Perform risk assessment prior to use. |
| Uses advised against     | : | Consumer use.<br>Uses other than those listed above are not supported, contact your supplier for more information on other uses.   |

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

|                                   |   |  |
|-----------------------------------|---|--|
| Company identification            | : | SOL SpA<br>Via G. Borgazzi 27<br>20900 MONZA - Italia<br>T +39 039 23.96.1<br><a href="http://www.sol.it">http://www.sol.it</a><br>msds@sol.it |
| E-Mail address (competent person) | : | msds@sol.it  |

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

|                            |   |  |
|----------------------------|---|--|
| Emergency telephone number | : | Linea verde SET - 800452661 (24h/24h, 365 giorni l'anno); Dall'estero +39 0283421263 |
|----------------------------|---|--|

## **SECTION 2: Hazards identification**

### **2.1. Classification of the substance or mixture**

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

|                  |  |      |
|------------------|--|------|
| Physical hazards | Oxidising Gases, Category 1                            | H270 |
|                  | Gases under pressure : Liquefied gas                   | H280 |
| Health hazards   | Skin corrosion/irritation, Category 1, Sub-Category 1B | H314 |
|                  | Serious eye damage/eye irritation, Category 1          | H318 |
|                  | Acute toxicity (inhalation:gas) Category 1             | H330 |

# Safety Data Sheet

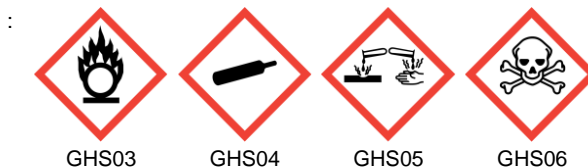
## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Reference number: 090

### 2.2. Label elements

#### Labelling according to Regulation (EC) No. 1272/2008 [CLP]

Hazard pictograms (CLP)



Signal word (CLP)

: Danger

Hazard statements (CLP)

: H314 - Causes severe skin burns and eye damage.  
H270 - May cause or intensify fire; oxidiser.  
H280 - Contains gas under pressure; may explode if heated.  
H330 - Fatal if inhaled.  
EUH071 - Corrosive to the respiratory tract.

Precautionary statements (CLP)

- Prevention

: P280 - Wear eye protection, face protection, protective clothing, protective gloves.  
P260 - Do not breathe gas, vapours.  
P244 - Keep valves and fittings free from oil and grease.  
P220 - Keep away from clothing and other combustible materials.

- Response

: P303+P361+P353+P315 - IF ON SKIN : (or hair) Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower. Get immediate medical advice / attention.  
P304+P340+P315 - IF INHALED : Remove victim to fresh air and keep at rest in a position comfortable for breathing. Get immediate medical advice / attention.  
P305+P351+P338+P315 - IF IN EYES : Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get immediate medical advice / attention.  
P370+P376 - In case of fire: Stop leak if safe to do so.  
P405 - Store locked up.  
P403 - Store in a well-ventilated place.

- Storage

### 2.3. Other hazards

Not classified as PBT or vPvB.

## SECTION 3: Composition/information on ingredients

### 3.1. Substances

| Name             | %   | Product identifier  | Classification according to Regulation (EC) No. 1272/2008 [CLP]  |
|------------------|-----|---|--|
| Nitrogen dioxide | 100 | CAS-No.: 10102-44-0<br>EC-No.: 233-272-6<br>EC Index-No.: 007-002-00-0<br>REACH registration No: 01-2120770753-48 | Ox. Gas 1, H270<br>Press. Gas (Liq.), H280<br>Skin Corr. 1B, H314<br>Eye Dam. 1, H318<br>Acute Tox. 1 (Inhalation:gas), H330 |

Contains no other components or impurities which will influence the classification of the product.

Not applicable

### 3.2. Mixtures

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

- Inhalation

: Remove victim to uncontaminated area wearing self contained breathing apparatus. Keep victim warm and rested. Call a doctor. Perform cardiopulmonary resuscitation if breathing stopped.

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090

- Skin contact : Remove contaminated clothing. Drench affected area with water for at least 15 minutes.
- Eye contact : Immediately flush eyes thoroughly with water for at least 15 minutes.
- Ingestion : Ingestion is not considered a potential route of exposure.

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

May cause severe chemical burns to skin and cornea. Suitable first-aid treatment should be immediately available. Seek medical advice before using product.  
 Material is destructive to tissue of the mucuous membranes and upper respiratory tract.  
 Cough, shortness of breath, headache, nausea.  
 See section 11.

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

Obtain medical assistance.  
 Treat with corticosteroid spray as soon as possible after inhalation.

## **SECTION 5: Firefighting measures**

### **5.1. Extinguishing media**

- Suitable extinguishing media : Water spray or fog.  
 Product does not burn, use fire control measures appropriate for the surrounding fire.
- Unsuitable extinguishing media : Do not use water jet to extinguish.

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

- Specific hazards : Supports combustion.  
 Exposure to fire may cause containers to rupture/explode.
- Hazardous combustion products : Nitric oxide/nitrogen dioxide.

### **5.3. Advice for firefighters**

- Specific methods : Use fire control measures appropriate for the surrounding fire. Exposure to fire and heat radiation may cause gas receptacles to rupture. Cool endangered receptacles with water spray jet from a protected position. Prevent water used in emergency cases from entering sewers and drainage systems.  
 If possible, stop flow of product.  
 Use water spray or fog to knock down fire fumes if possible.  
 Move containers away from the fire area if this can be done without risk.
- Special protective equipment for fire fighters : Wear gas tight chemically protective clothing in combination with self contained breathing apparatus.  
 Standard EN 943-2: Protective clothing against liquid and gaseous chemicals, aerosols and solid particles. Gas-tight chemical protective suits for emergency teams.  
 Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.

## **SECTION 6: Accidental release measures**

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

- For non-emergency personnel : Act in accordance with local emergency plan.  
 Try to stop release.  
 Evacuate area.  
 Ensure adequate air ventilation.  
 Eliminate ignition sources.  
 Prevent from entering sewers, basements and workpits, or any place where its accumulation can be dangerous.  
 Stay upwind.  
 See section 8 of the SDS for more information on personal protective equipment.
- For emergency responders : Wear self-contained breathing apparatus when entering area unless atmosphere is proved to be safe.  
 Use chemically protective clothing.  
 Monitor concentration of released product.  
 See section 5.3 of the SDS for more information.

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090

### 6.2. Environmental precautions

Reduce vapour with fog or fine water spray.  
 Try to stop release.

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

Hose down area with water.  
 Wash contaminated equipment or sites of leaks with copious quantities of water.

### 6.4. Reference to other sections

See also sections 8 and 13.

## **SECTION 7: Handling and storage**

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

Safe use of the product

: Use only lubricants and sealings approved for the specific gas service.  
 The product must be handled in accordance with good industrial hygiene and safety procedures.  
 Only experienced and properly instructed persons should handle gases under pressure.  
 Consider pressure relief device(s) in gas installations.  
 Ensure the complete gas system was (or is regularly) checked for leaks before use.  
 Do not smoke while handling product.  
 Avoid exposure, obtain special instructions before use.  
 Keep equipment free from oil and grease. For more guidance, refer to the EIGA Doc. 33 - Cleaning of Equipment for Oxygen Service downloadable at <http://www.eiga.eu>.  
 Use no oil or grease.  
 Use only properly specified equipment which is suitable for this product, its supply pressure and temperature. Contact your gas supplier if in doubt.  
 Installation of a cross purge assembly between the container and the regulator is recommended.  
 Purge system with dry inert gas (e.g. helium or nitrogen) before gas is introduced and when system is placed out of service.  
 Avoid suck back of water, acid and alkalis.  
 Do not breathe gas.  
 Avoid release of product into work area.

Safe handling of the gas receptacle

: Refer to supplier's container handling instructions.  
 Do not allow backfeed into the container.  
 Protect containers from physical damage; do not drag, roll, slide or drop.  
 When moving cylinders, even for short distances, use a cart (trolley, hand truck, etc.) designed to transport cylinders.  
 Leave valve protection caps in place until the container has been secured against either a wall or bench or placed in a container stand and is ready for use.  
 If user experiences any difficulty operating valve discontinue use and contact supplier.  
 Never attempt to repair or modify container valves or safety relief devices.  
 Damaged valves should be reported immediately to the supplier.  
 Keep container valve outlets clean and free from contaminants particularly oil and water.  
 Replace valve outlet caps or plugs and container caps where supplied as soon as container is disconnected from equipment.  
 Close container valve after each use and when empty, even if still connected to equipment.  
 Never attempt to transfer gases from one cylinder/container to another.  
 Never use direct flame or electrical heating devices to raise the pressure of a container.  
 Do not remove or deface labels provided by the supplier for the identification of the content of the container.  
 Suck back of water into the container must be prevented.  
 Open valve slowly to avoid pressure shock.

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090

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

Observe all regulations and local requirements regarding storage of containers.  
 Containers should not be stored in conditions likely to encourage corrosion.  
 Container valve guards or caps should be in place.  
 Containers should be stored in the vertical position and properly secured to prevent them from falling over.  
 Stored containers should be periodically checked for general condition and leakage.  
 Keep container below 50°C in a well ventilated place.  
 Segregate from flammable gases and other flammable materials in store.  
 Store containers in location free from fire risk and away from sources of heat and ignition.  
 Keep away from combustible materials.

### 7.3. Specific end use(s)

None.

## SECTION 8: Exposure controls/personal protection

### 8.1. Control parameters

| Nitrogen dioxide (10102-44-0)                      |                                    |
|--|------------------------------------|
| EU - Indicative Occupational Exposure Limit (IOEL) |                                    |
| Local name   | Nitrogen dioxide                   |
| IOEL TWA   | 0.96 mg/m <sup>3</sup>             |
| IOEL TWA [ppm]                                     | 0.5 ppm                            |
| IOEL STEL  | 1.91 mg/m <sup>3</sup>             |
| IOEL STEL [ppm]                                    | 1 ppm                              |
| Regulatory reference                               | COMMISSION DIRECTIVE (EU) 2017/164 |

DNEL (Derived-No Effect Level) : None available.

PNEC (Predicted No-Effect Concentration) : None available.

### 8.2. Exposure controls

#### 8.2.1. Appropriate engineering controls

Product to be handled in a closed system and under strictly controlled conditions.  
 Provide adequate general and local exhaust ventilation.  
 Preferably use permanent leak-tight installations (e.g. welded pipes).  
 Systems under pressure should be regularly checked for leakages.  
 Ensure exposure is below occupational exposure limits (where available).  
 Gas detectors should be used when toxic gases may be released.  
 Consider the use of a work permit system e.g. for maintenance activities.

#### 8.2.2. Individual protection measures, e.g. personal protective equipment

- Eye/face protection : A risk assessment should be conducted and documented in each work area to assess the risks related to the use of the product and to select the PPE that matches the relevant risk.  
 The following recommendations should be considered:  
 PPE compliant to the recommended EN/ISO standards should be selected.  
 : Wear goggles and a face shield when transfilling or breaking transfer connections.  
 Standard EN 166 - Personal eye-protection - specifications.  
 Provide readily accessible eye wash stations and safety showers.
- Skin protection

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090

- Hand protection : Wear working gloves when handling gas containers.  
 Wear chemically resistant protective gloves.  
 Standard EN 388 - Protective gloves against mechanical risk, performance level 1 or higher.  
 Standard EN 374 - Protective gloves against chemicals.  
 Polyvinylchloride (PVC).
- Other : Keep suitable chemically resistant protective clothing readily available for emergency use.  
 Standard EN943-1 - Full protective suits against liquid, solid and gaseous chemicals.  
 Wear safety shoes while handling containers.  
 Standard EN ISO 20345 - Personal protective equipment - Safety footwear.
- Respiratory protection : Gas filters may be used if all surrounding conditions e.g. type and concentration of the contaminant(s) and duration of use are known.  
 Use gas filters with full face mask, where exposure limits may be exceeded for a short-term period, e.g. connecting or disconnecting containers.  
 Standard EN 137 - Self-contained open-circuit compressed air breathing apparatus with full face mask.  
 Recommended: Filter NO (blue).  
 Gas filters do not protect against oxygen deficiency.  
 Standard EN 14387 - Gas filter(s), combined filter(s) and standard EN136, full face masks .  
 Keep self contained breathing apparatus readily available for emergency use.  
 Self contained breathing apparatus is recommended, where unknown exposure may be expected, e.g. during maintenance activities on installation systems.
- Thermal hazards : None in addition to the above sections.

### 8.2.3. Environmental exposure controls

Refer to local regulations for restriction of emissions to the atmosphere. See section 13 for specific methods for waste gas treatment.

## SECTION 9: Physical and chemical properties

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

|   |  |
|---|--|
| Appearance                                      |  |
| - Physical state at 20°C / 101.3kPa             | : Gas.   |
| - Colour  | : Brownish gas.  |
| Odour   | : Pungent. Poor warning properties at low concentrations.<br>Odour threshold is subjective and inadequate to warn of overexposure. |
| Melting point / Freezing point                  | : -11.2 °C<br>-11.2 °C   |
| Boiling point                                   | : 21.1 °C  |
| Flammability                                    | : Non flammable.   |
| Lower explosion limit                           | : Not available  |
| Upper explosion limit                           | : Not available  |
| Flash point                                     | : Not applicable for gases and gas mixtures.   |
| Auto-ignition temperature                       | : Non flammable.   |
| Decomposition temperature                       | : Not applicable.  |
| pH  | : If dissolved in water pH-value will be affected.   |
| Viscosity, kinematic                            | : No reliable data available.  |
| Water solubility [20°C]                         | : Not available  |
| Partition coefficient n-octanol/water (Log Kow) | : Not available  |
| Vapour pressure [20°C]                          | : 1 bar(a)   |
| Vapour pressure [50°C]                          | : 3.4 bar(a)   |
| Density and/or relative density                 | : Not applicable.  |
| Relative vapour density (air=1)                 | : 2.8  |
| Particle characteristics                        | : Not applicable.  |

### 9.2. Other information

#### 9.2.1. Information with regard to physical hazard classes

|                      |                   |
|----------------------|-------------------|
| Explosive properties | : Not applicable. |
| Explosion limits     | : Non flammable.  |
| Oxidising properties | : Oxidiser.       |

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090

- Coefficient of oxygen equivalency (Ci) : 1  
 Critical temperature [°C] : 158 °C

### 9.2.2. Other safety characteristics

Molar mass : 46 g/mol  
 Evaporation rate : Not applicable for gases and gas mixtures.  
 Gas group : Press. Gas (Liq.).  
 Other data : Gas/vapour heavier than air. May accumulate in confined spaces, particularly at or below ground level.

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

No reactivity hazard other than the effects described in sub-sections below.

### 10.2. Chemical stability

Stable under normal conditions.

### 10.3. Possibility of hazardous reactions

Violently oxidises organic material.

### 10.4. Conditions to avoid

Avoid moisture in installation systems.

### 10.5. Incompatible materials

May react violently with alkalis.  
 With water causes rapid corrosion of some metals.  
 Reacts with water to form corrosive acids.  
 Moisture.  
 May react violently with combustible materials.  
 May react violently with reducing agents.  
 Keep equipment free from oil and grease. For more guidance, refer to the EIGA Doc. 33 - Cleaning of Equipment for Oxygen Service downloadable at <http://www.eiga.eu>.  
 For additional information on compatibility refer to ISO 11114.

### 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 hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity : Fatal if inhaled.

|                             |             |
|-----------------------------|-------------|
| LC50 Inhalation - Rat [ppm] | 57.5 ppm/4h |
|-----------------------------|-------------|

Skin corrosion/irritation : Causes severe skin burns and eye damage.

Serious eye damage/irritation : Causes serious eye damage.

Respiratory or skin sensitisation : No known effects from this product.

Germ cell mutagenicity : No known effects from this product.

Carcinogenicity : No known effects from this product.

Toxic for reproduction : Fertility : No known effects from this product.

Toxic for reproduction : unborn child : No known effects from this product.

STOT-single exposure : Severe corrosion to the respiratory tract at high concentrations.

STOT-repeated exposure : No known effects from this product.

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090

**Aspiration hazard** : Not applicable for gases and gas mixtures.

### 11.2. Information on other hazards

Other information : Delayed fatal pulmonary oedema possible.

## SECTION 12: Ecological information

### 12.1. Toxicity

Assessment : No ecological damage caused by this product.  
 EC50 48h - Daphnia magna [mg/l] : No data available.  
 EC50 72h - Algae [mg/l] : No data available.  
 LC50 96 h - Fish [mg/l] : No data available.

### 12.2. Persistence and degradability

Assessment : Not applicable for inorganic products.

### 12.3. Bioaccumulative potential

No additional information available

### 12.4. Mobility in soil

Assessment : Because of its high volatility, the product is unlikely to cause ground or water pollution.  
 Partition into soil is unlikely.

### 12.5. Results of PBT and vPvB assessment

Assessment : Not classified as PBT or vPvB.

### 12.6. Endocrine disrupting properties

Assessment :

### 12.7. Other adverse effects

Other adverse effects : May cause pH changes in aqueous ecological systems.  
 Effect on the ozone layer : No effect on the ozone layer.  
 Effect on global warming : No known effects from this product.

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

List of hazardous waste codes (from Commission Decision 2000/532/EC as amended) : Contact supplier if guidance is required.  
 Must not be discharged to atmosphere.  
 Gas may be scrubbed in alkaline solution under controlled conditions to avoid violent reaction.  
 Ensure that the emission levels from local regulations or operating permits are not exceeded.  
 Refer to the EIGA code of practice Doc.30 "Disposal of Gases", downloadable at <http://www.eiga.org> for more guidance on suitable disposal methods.  
 Return unused product in original container to supplier.  
 : 16 05 04 \*: Gases in pressure containers (including halons) containing hazardous substances.

### 13.2. Additional information

External treatment and disposal of waste should comply with applicable local and/or national regulations.

## SECTION 14: Transport information

### 14.1. UN number or ID number

In accordance with ADR / RID / IMDG / IATA / ADN  
 UN-No. : 1067



# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
 Reference number: 090

### 14.2. UN proper shipping name

|                                       |   |
|---------------------------------------|---|
| Transport by road/rail (ADR/RID)      | : DINITROGEN TETROXIDE (NITROGEN DIOXIDE) |
| Transport by air (ICAO-TI / IATA-DGR) | : Nitrogen dioxide                        |
| Transport by sea (IMDG)               | : DINITROGEN TETROXIDE (NITROGEN DIOXIDE) |

### 14.3. Transport hazard class(es)

#### Labelling



2.3 : Toxic gases.  
 5.1 : Oxidizing substances.  
 8 : Corrosive substances.

#### Transport by road/rail (ADR/RID)

|                              |  |
|------------------------------|--|
| Class                        | : 2  |
| Classification code          | : 2TOC   |
| Hazard identification number | : 265  |
| Tunnel Restriction           | : C/D - Tank carriage : Passage forbidden through tunnels of category C, D and E. Other carriage : Passage forbidden through tunnels of category D and E |

#### Transport by sea (IMDG)

|                                     |                |
|-------------------------------------|----------------|
| Class / Div. (Sub. risk(s))         | : 2.3 (5.1, 8) |
| Emergency Schedule (EmS) - Fire     | : F-C          |
| Emergency Schedule (EmS) - Spillage | : S-W          |

### 14.4. Packing group

|                                       |                   |
|---------------------------------------|-------------------|
| Transport by road/rail (ADR/RID)      | : Not applicable. |
| Transport by air (ICAO-TI / IATA-DGR) | : Not applicable. |
| Transport by sea (IMDG)               | : Not applicable. |

### 14.5. Environmental hazards

|                                       |         |
|---------------------------------------|---------|
| Transport by road/rail (ADR/RID)      | : None. |
| Transport by air (ICAO-TI / IATA-DGR) | : None. |
| Transport by sea (IMDG)               | : None. |

### 14.6. Special precautions for user

#### Packing Instruction(s)

|                                       |              |
|---------------------------------------|--------------|
| Transport by road/rail (ADR/RID)      | : P200.      |
| Transport by air (ICAO-TI / IATA-DGR) |              |
| Passenger and Cargo Aircraft          | : Forbidden. |
| Cargo Aircraft only                   | : Forbidden. |
| Transport by sea (IMDG)               | : P200.      |

|                               |   |
|-------------------------------|---|
| Special transport precautions | : Avoid transport on vehicles where the load space is not separated from the driver's compartment.<br>Ensure vehicle driver is aware of the potential hazards of the load and knows what to do in the event of an accident or an emergency.<br>Before transporting product containers:<br>- Ensure there is adequate ventilation.<br>- Ensure that containers are firmly secured.<br>- Ensure valve is closed and not leaking.<br>- Ensure valve outlet cap nut or plug (where provided) is correctly fitted.<br>- Ensure valve protection device (where provided) is correctly fitted. |
|-------------------------------|---|

### 14.7. Maritime transport in bulk according to IMO instruments

Not applicable.

### SECTION 15: Regulatory information

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

##### EU-Regulations

Restrictions on use : None.  
 Other information, restriction and prohibition regulations : Not listed on the PIC list (Regulation EU 649/2012).  
 Seveso Directive : 2012/18/EU (Seveso III) : Covered.

##### National regulations

Regulatory reference : Ensure all national/local regulations are observed.

#### 15.2. Chemical safety assessment

A CSA has not yet been carried out.

### SECTION 16: Other information

Indication of changes : Revised safety data sheet in accordance with commission regulation (EU) No 2015/830.

Abbreviations and acronyms : ATE - Acute Toxicity Estimate.  
 CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008.  
 REACH - Registration, Evaluation, Authorisation and Restriction of Chemicals Regulation (EC) No 1907/2006.  
 EINECS - European Inventory of Existing Commercial Chemical Substances.  
 CAS# - Chemical Abstract Service number.  
 PPE - Personal Protection Equipment.  
 LC50 - Lethal Concentration to 50 % of a test population.  
 RMM - Risk Management Measures.  
 PBT - Persistent, Bioaccumulative and Toxic.  
 vPvB - Very Persistent and Very Bioaccumulative.  
 STOT- SE : Specific Target Organ Toxicity - Single Exposure.  
 CSA - Chemical Safety Assessment.  
 EN - European Standard.  
 UN - United Nations.  
 ADR - European Agreement concerning the International Carriage of Dangerous Goods by Road.  
 IATA - International Air Transport Association.  
 IMDG code - International Maritime Dangerous Goods.  
 RID - Regulations concerning the International Carriage of Dangerous Goods by Rail.  
 WGK - Water Hazard Class.  
 STOT - RE : Specific Target Organ Toxicity - Repeated Exposure.  
 UFI : Unique Formula Identifier.

Training advice : Users of breathing apparatus must be trained.  
 Ensure operators understand the toxicity hazard.

Further information : Classification in accordance with the procedures and calculation methods of Regulation (EC) 1272/2008 (CLP).  
 Key literature references and sources of data are maintained in EIGA doc 169 : 'Classification and Labelling Guide', downloadable at <http://www.Eiga.eu>.

| Full text of H- and EUH-statements |   |
|------------------------------------|---|
| Acute Tox. 1 (Inhalation:gas)      | Acute toxicity (inhalation:gas) Category 1          |
| EUH071                             | Corrosive to the respiratory tract.                 |
| Eye Dam. 1                         | Serious eye damage/eye irritation, Category 1       |
| H270                               | May cause or intensify fire; oxidiser.              |
| H280                               | Contains gas under pressure; may explode if heated. |
| H314                               | Causes severe skin burns and eye damage.            |

# Safety Data Sheet

## Nitrogen dioxide

according to the REACH Regulation (EC) 1907/2006 amended by Regulation (EU) 2020/878  
Reference number: 090

|                   |  |
|-------------------|--|
| H318              | Causes serious eye damage.                             |
| H330              | Fatal if inhaled.                                      |
| Ox. Gas 1         | Oxidising Gases, Category 1                            |
| Press. Gas (Liq.) | Gases under pressure : Liquefied gas                   |
| Skin Corr. 1B     | Skin corrosion/irritation, Category 1, Sub-Category 1B |

### DISCLAIMER OF LIABILITY

: Before using this product in any new process or experiment, a thorough material compatibility and safety study should be carried out.  
Details given in this document are believed to be correct at the time of going to press.  
Whilst proper care has been taken in the preparation of this document, no liability for injury or damage resulting from its use can be accepted.

**End of document**