

## Safety Data Sheet

According to Annex II to REACH - Regulation (EU) 2020/878 and to Annex II to UK REACH

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

#### 1.1. Product identifier

Code: **TC26400**  
 Product name: **IODINE 0.05N=N/20=0.025M**

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

Intended use: **Laboratory reagent**

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

Name: **TITOLCHIMICA SPA**  
 Full address: **VIA S.PIETRO MARTIRE 1054**  
 District and Country: **45030 PONTECCHIO POLESINE (RO)**  
**ITALIA**  
 Tel. **+39425492644**

e-mail address of the competent person

responsible for the Safety Data Sheet  
 Supplier: **utecnico@titolchimica.it**  
**TITOLCHIMICA SPA**

#### 1.4. Emergency telephone number

For urgent inquiries refer to

**Pavia - National Center for Toxicological Information 0382/24444;**  
**Milan - Hosp. Niguarda Ca' Granda 02/66101029;**  
**Bergamo - Hosp. "Pope John XXIII" 800/883300;**  
**Verona - Hosp. Integrated Verona 800/011858**  
**Florence - Hosp. "Careggi" U.O. Medical Toxicology 055/7947819;**  
**Rome - "A. Gemelli" Polyclinic 06/3054343;**  
**Rome - "Umberto I" Polyclinic 06/49978000;**  
**Rome - "Bambino Gesù Pediatric Hospital" 06/68593726**  
**Naples - Hosp. "A. Cardarelli" 081/5453333;**  
**Foggia - Hosp. University of Foggia 800/183459**

### SECTION 2. Hazards identification

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

The product is classified as hazardous pursuant to the provisions set forth in (EC) Regulation 1272/2008 (CLP) (and subsequent amendments and supplements). The product thus requires a safety datasheet that complies with the provisions of (EU) Regulation 2020/878. Any additional information concerning the risks for health and/or the environment are given in sections 11 and 12 of this sheet.

Hazard classification and indication:

Specific target organ toxicity - repeated exposure, category 2      H373      May cause damage to organs through prolonged or repeated exposure.

#### 2.2. Label elements

Hazard labelling pursuant to EC Regulation 1272/2008 (CLP) and subsequent amendments and supplements.

Hazard pictograms:



Signal words: **Warning**

**TC26400 - IODINE 0.05N=N/20=0.025M**

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**Hazard statements:**
**H373** May cause damage to organs through prolonged or repeated exposure.

**Precautionary statements:**
**P260** Do not breathe dust / fume / gas / mist / vapours / spray.  
**P314** Get medical advice / attention if you feel unwell.

**Contains:** Potassium iodide

**2.3. Other hazards**

 On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

 The product does not contain substances with endocrine disrupting properties in concentration  $\geq$  0.1%.

**SECTION 3. Composition/information on ingredients**
**3.2. Mixtures**
**Contains:**

Identification	Conc. %	Classification (EC) 1272/2008 (CLP)
<b>Potassium iodide</b>		
INDEX	1 - 2	STOT RE 1 H372
EC 231-659-4		
CAS 7681-11-0		
REACH Reg. 01-2119966161-40-XXXX		
<b>Iodine</b>		
INDEX 053-001-00-3	0,5 – 1,0	Acute Tox. 4 H302+H312+H332, STOT RE 1 H372, Eye Irrit. 2 H319, Skin Irrit. 2 H315, STOT SE 3 H335, Aquatic Acute 1 H400 M=1
EC 231-442-4		
CAS 7553-56-2		
REACH Reg. 01-2119485285-30-XXXX		

The full wording of hazard (H) phrases is given in section 16 of the sheet.

**SECTION 4. First aid measures**
**4.1. Description of first aid measures**
**EYES:** Remove contact lenses, if present. Wash immediately with plenty of water for at least 15 minutes, opening the eyelids fully. If problem persists, seek medical advice.

**SKIN:** Remove contaminated clothing. Wash immediately with plenty of water. If irritation persists, get medical advice/attention. Wash contaminated clothing before using it again.

**INHALATION:** Remove to open air. In the event of breathing difficulties, get medical advice/attention immediately.

**INGESTION:** Get medical advice/attention. Induce vomiting only if indicated by the doctor. Never give anything by mouth to an unconscious person, unless authorised by a doctor.

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

Skin contact can cause the following symptoms: redness.

Inhalation may cause the following symptoms: shortness of breath, asthma.

Ingestion may cause the following symptoms: intestinal disorders.

In case of eye contact: excessive tearing.

**Potassium iodide**

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Ingestion may cause the following symptoms: intestinal disorders.

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

Information not available

**SECTION 5. Firefighting measures**

The product is not flammable and does not feed the flames.

**5.1. Extinguishing media**

## SUITABLE EXTINGUISHING EQUIPMENT

The extinguishing equipment should be of the conventional kind: carbon dioxide, foam, powder and water spray.

## UNSUITABLE EXTINGUISHING EQUIPMENT

None in particular.

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

## HAZARDS CAUSED BY EXPOSURE IN THE EVENT OF FIRE

Do not breathe combustion products.

## Iodine

Hazardous Combustion Products: Iodine compounds.

## Potassium iodide

Potassium oxides, iodine compounds.

**5.3. Advice for firefighters**

## GENERAL INFORMATION

Use jets of water to cool the containers to prevent product decomposition and the development of substances potentially hazardous for health. Always wear full fire prevention gear. Collect extinguishing water to prevent it from draining into the sewer system. Dispose of contaminated water used for extinction and the remains of the fire according to applicable regulations.

## SPECIAL PROTECTIVE EQUIPMENT FOR FIRE-FIGHTERS

Normal fire fighting clothing i.e. fire kit (BS EN 469), gloves (BS EN 659) and boots (HO specification A29 and A30) in combination with self-contained open circuit positive pressure compressed air breathing apparatus (BS EN 137).

**SECTION 6. Accidental release measures****6.1. Personal precautions, protective equipment and emergency procedures**

Block the leakage if there is no hazard.

Wear suitable protective equipment (including personal protective equipment referred to under Section 8 of the safety data sheet) to prevent any contamination of skin, eyes and personal clothing. These indications apply for both processing staff and those involved in emergency procedures.

**6.2. Environmental precautions**

The product must not penetrate into the sewer system or come into contact with surface water or ground water.

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

Collect the leaked product into a suitable container. Evaluate the compatibility of the container to be used, by checking section 10. Absorb the remainder with inert absorbent material.

Make sure the leakage site is well aired. Contaminated material should be disposed of in compliance with the provisions set forth in point 13.

**6.4. Reference to other sections**

Any information on personal protection and disposal is given in sections 8 and 13.

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## SECTION 7. Handling and storage

### 7.1. Precautions for safe handling

Before handling the product, consult all the other sections of this material safety data sheet. Avoid leakage of the product into the environment. Do not eat, drink or smoke during use. Remove any contaminated clothes and personal protective equipment before entering places in which people eat.

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

Store only in the original container. Store the containers sealed, in a well ventilated place, away from direct sunlight. Keep containers away from any incompatible materials, see section 10 for details.

### 7.3. Specific end use(s)

Information not available

## SECTION 8. Exposure controls/personal protection

### 8.1. Control parameters

Regulatory references:

ESP	España	Límites de exposición profesional para agentes químicos en España 2021 Valeurs limites d'exposition professionnelle aux agents chimiques en France. ED 984 - INRS Hotărârea nr. 53/2021 pentru modificarea hotărârii guvernului nr. 1.218/2006, precum și pentru modificarea și completarea hotărârii guvernului nr. 1.093/2006
FRA	France	
ROU	România	
GBR	United Kingdom	EH40/2005 Workplace exposure limits (Fourth Edition 2020) ACGIH 2022
	TLV-ACGIH	

### Iodine

#### Threshold Limit Value

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m <sup>3</sup>	ppm	mg/m <sup>3</sup>	ppm	
VLA	ESP	0,1	0,01	1	0,1	INHAL
VLEP	FRA	1	0,1			
TLV	ROU	0,5	0,09	1	0,2	
WEL	GBR	1,1	0,1			
TLV-ACGIH			0,01		0,1	trd, irrt TRS

#### Predicted no-effect concentration - PNEC

Normal value in fresh water	0,01813	mg/l
Normal value in marine water	0,06001	mg/l
Normal value for fresh water sediment	3,99	mg/kg
Normal value for marine water sediment	20,22	mg/kg
Normal value of STP microorganisms	11	mg/l
Normal value for the terrestrial compartment	5,95	mg/kg

#### Health - Derived no-effect level - DNEL / DMEL

Route of exposure	Effects on consumers			Effects on workers			Chronic systemic
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	
Inhalation							VND 0,07 mg/m <sup>3</sup>
Skin							VND 0,01 mg/kg/d

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**Potassium iodide**
**Threshold Limit Value**

Type	Country	TWA/8h		STEL/15min		Remarks / Observations
		mg/m3	ppm	mg/m3	ppm	
TLV-ACGIH		0,01	0,01			(Iodio)

**Predicted no-effect concentration - PNEC**

Normal value in fresh water		0,007	mg/l
Normal value for fresh water sediment		0,007	mg/kg/d

**Health - Derived no-effect level - DNEL / DMEL**

Route of exposure	Effects on consumers			Effects on workers				
	Acute local	Acute systemic	Chronic local	Chronic systemic	Acute local	Acute systemic	Chronic local	Chronic systemic
Inhalation								0,07 mg/m3
Skin								1 mg/kg bw/d

Legend:

(C) = CEILING ; INHAL = Inhalable Fraction ; RESP = Respirable Fraction ; THORA = Thoracic Fraction.

VND = hazard identified but no DNEL/PNEC available ; NEA = no exposure expected ; NPI = no hazard identified ; LOW = low hazard ; MED = medium hazard ; HIGH = high hazard.

Iodine

Sampling methods available at the site

<https://amcaw.ifa.dguv.de/amcaw/substances/methods/4460e8e8-5121-4fe3-946a-67d509da982d>
**8.2. Exposure controls**

As the use of adequate technical equipment must always take priority over personal protective equipment, make sure that the workplace is well aired through effective local aspiration.

When choosing personal protective equipment, ask your chemical substance supplier for advice.

Personal protective equipment must be CE marked, showing that it complies with applicable standards.

Exposure levels must be kept as low as possible to avoid significant build-up in the organism. Manage personal protective equipment so as to guarantee maximum protection (e.g. reduction in replacement times).

**HAND PROTECTION**

Protect hands with category III work gloves.

The following should be considered when choosing work glove material (see standard EN 374): compatibility, degradation, failure time and permeability. The work gloves' resistance to chemical agents should be checked before use, as it can be unpredictable. The gloves' wear time depends on the duration and type of use.

**SKIN PROTECTION**

Wear category II professional long-sleeved overalls and safety footwear (see Regulation 2016/425 and standard EN ISO 20344). Wash body with soap and water after removing protective clothing.

**EYE PROTECTION**

Wear airtight protective goggles (see standard EN 166).

**RESPIRATORY PROTECTION**

If the threshold value (e.g. TLV-TWA) is exceeded for the substance or one of the substances present in the product, use a mask with a type B filter whose class (1, 2 or 3) must be chosen according to the limit of use concentration. (see standard EN 14387). In the presence of gases or vapours of various kinds and/or gases or vapours containing particulate (aerosol sprays, fumes, mists, etc.) combined filters are required.

Respiratory protection devices must be used if the technical measures adopted are not suitable for restricting the worker's exposure to the threshold values considered. The protection provided by masks is in any case limited.

If the substance considered is odourless or its olfactory threshold is higher than the corresponding TLV-TWA and in the case of an emergency, wear open-circuit compressed air breathing apparatus (in compliance with standard EN 137) or external air-intake breathing apparatus (in compliance with standard EN 138). For a correct choice of respiratory protection device, see standard EN 529.

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**ENVIRONMENTAL EXPOSURE CONTROLS**

The emissions generated by manufacturing processes, including those generated by ventilation equipment, should be checked to ensure compliance with environmental standards.

## SECTION 9. Physical and chemical properties

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

Properties	Value	Information
Appearance	clear liquid	
Colour	Red - brown	
Odour	not available	
Melting point / freezing point	not available	
Initial boiling point	100 °C	
Flammability	not flammable	
Lower explosive limit	not applicable	
Upper explosive limit	not applicable	
Flash point	not available	
Auto-ignition temperature	not applicable	
Decomposition temperature	not available	
pH	7-8	
Kinematic viscosity	not available	
Solubility	Completely soluble in water	
Partition coefficient: n-octanol/water	not available	
Vapour pressure	not available	
Density and/or relative density	1	
Relative vapour density	not available	
Particle characteristics	not applicable	

### 9.2. Other information

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

Information not available

#### 9.2.2. Other safety characteristics

Information not available

## SECTION 10. Stability and reactivity

In the absence of information on the mixture, the literature information on the components is reported. This information is not characteristic of the solution but of the dangerous components.

### 10.1. Reactivity

There are no particular risks of reaction with other substances in normal conditions of use.

Iodine  
 Combustible materials.

### 10.2. Chemical stability

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The product is stable in normal conditions of use and storage.

**10.3. Possibility of hazardous reactions**

No hazardous reactions are foreseeable in normal conditions of use and storage.

**10.4. Conditions to avoid**

None in particular. However the usual precautions used for chemical products should be respected.

Iodine  
 Naked flames,overheated surfaces,ignition sources.

**10.5. Incompatible materials**

Iodine  
 Combustible materials,reducing agents,bases,metals.

Potassium iodide  
 Oxidising agents,strong acids,metals.

**10.6. Hazardous decomposition products**

Iodine  
 carbon monoxide,nitric oxide,hydrochloric acid,isocyanates.

Potassium iodide  
 When heated to decomposition releases: iodine,iodoboric acid,potassium oxides.

## SECTION 11. Toxicological information

In the absence of experimental data for the product itself, health hazards are evaluated according to the properties of the substances it contains, using the criteria specified in the applicable regulation for classification.  
 It is therefore necessary to take into account the concentration of the individual hazardous substances indicated in section 3, to evaluate the toxicological effects of exposure to the product.

**11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008**
Metabolism, toxicokinetics, mechanism of action and other information

Information not available

Information on likely routes of exposure

Information not available

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Information not available

Interactive effects

Information not available

ACUTE TOXICITY

ATE (Inhalation) of the mixture:	Not classified (no significant component)
ATE (Oral) of the mixture:	Not classified (no significant component)
ATE (Dermal) of the mixture:	Not classified (no significant component)

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Iodine  
LD50 (Dermal): 1425 mg/kg coniglio  
Acute oral toxicity:  
Assessment: The component is moderately toxic after single ingestion.  
Comments: Derogation of data requirements in REACH  
Acute inhalation toxicity:  
Assessment: The component is moderately toxic after short-term inhalation.

Potassium iodide  
LD50 (Oral): 3118 mg/kg ratto (OECD 401)

SKIN CORROSION / IRRITATION

Does not meet the classification criteria for this hazard class

Iodine  
Irritating to skin.

SERIOUS EYE DAMAGE / IRRITATION

Does not meet the classification criteria for this hazard class

Iodine  
Irritating to eyes.

RESPIRATORY OR SKIN SENSITISATION

Does not meet the classification criteria for this hazard class

GERM CELL MUTAGENICITY

Does not meet the classification criteria for this hazard class

CARCINOGENICITY

Does not meet the classification criteria for this hazard class

REPRODUCTIVE TOXICITY

Does not meet the classification criteria for this hazard class

STOT - SINGLE EXPOSURE

Does not meet the classification criteria for this hazard class

Iodine  
Target organs: respiratory tract  
Assessment: May cause respiratory irritation

STOT - REPEATED EXPOSURE

May cause damage to organs

Iodine  
Target Organs: Thyroid.  
Assessment: Causes damage to organs through prolonged or repeated exposure.

Potassium iodide  
Route of exposure: ingestion.  
Target Organs: Thymus gland.  
Assessment: Causes damage to organs through prolonged or repeated exposure.

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ASPIRATION HAZARD

Does not meet the classification criteria for this hazard class

**11.2. Information on other hazards**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with human health effects under evaluation.

**SECTION 12. Ecological information**

Use this product according to good working practices. Avoid littering. Inform the competent authorities, should the product reach waterways or contaminate soil or vegetation.

**12.1. Toxicity**

Iodine

LC50 - for Fish	0,53 mg/l/96h <i>Oncorhynchus mykiss</i> (trout iridea)
EC50 - for Crustacea	0,16 mg/l/48h <i>Daphnia magna</i> (acqua dolce)

Potassium iodide

LC50 - for Fish	2190 mg/l/96h <i>Oncorhynchus mykiss</i> (Trout iridea) in acqua dolce
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**12.2. Persistence and degradability**

Iodine

Degradability

In principle only abiotic degradation processes are relevant for the substance. Upon contact with water the substance rapidly hydrolyzes forming hypoiodous acid (HOI) and iodide.

**12.3. Bioaccumulative potential**

Iodine

Partition coefficient: n-octanol/water	2,49
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Potassium iodide

Partition coefficient: n-octanol/water	0,11
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**12.4. Mobility in soil**

Information not available

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

On the basis of available data, the product does not contain any PBT or vPvB in percentage  $\geq$  than 0,1%.

**12.6. Endocrine disrupting properties**

Based on the available data, the product does not contain substances listed in the main European lists of potential or suspected endocrine disruptors with environmental effects under evaluation.

**12.7. Other adverse effects**

Information not available

**SECTION 13. Disposal considerations**
**13.1. Waste treatment methods**

Reuse, when possible. Neat product residues should be considered special non-hazardous waste.  
 Disposal must be performed through an authorised waste management firm, in compliance with national and local regulations.  
**CONTAMINATED PACKAGING**  
 Contaminated packaging must be recovered or disposed of in compliance with national waste management regulations.

## SECTION 14. Transport information

The product is not dangerous under current provisions of the Code of International Carriage of Dangerous Goods by Road (ADR) and by Rail (RID), of the International Maritime Dangerous Goods Code (IMDG), and of the International Air Transport Association (IATA) regulations.

### 14.1. UN number or ID number

not applicable

### 14.2. UN proper shipping name

not applicable

### 14.3. Transport hazard class(es)

not applicable

### 14.4. Packing group

not applicable

### 14.5. Environmental hazards

not applicable

### 14.6. Special precautions for user

not applicable

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

Information not relevant

## SECTION 15. Regulatory information

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

Seveso Category - Directive 2012/18/EU: None

Restrictions relating to the product or contained substances pursuant to Annex XVII to EC Regulation 1907/2006

<u>Product</u>	
Point	3

<u>Contained substance</u>	
Point	75

Regulation (EU) 2019/1148 - on the marketing and use of explosives precursors

not applicable

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Substances in Candidate List (Art. 59 REACH)

On the basis of available data, the product does not contain any SVHC in percentage  $\geq$  than 0,1%.

Substances subject to authorisation (Annex XIV REACH)

None

Substances subject to exportation reporting pursuant to Regulation (EU) 649/2012:

None

Substances subject to the Rotterdam Convention:

None

Substances subject to the Stockholm Convention:

None

Healthcare controls

Workers exposed to this chemical agent must not undergo health checks, provided that available risk-assessment data prove that the risks related to the workers' health and safety are modest and that the 98/24/EC directive is respected.

**15.2. Chemical safety assessment**

A chemical safety assessment has been performed for the following contained substances

Iodine

**SECTION 16. Other information**

Text of hazard (H) indications mentioned in section 2-3 of the sheet:

<b>Acute Tox. 4</b>	Acute toxicity, category 4
<b>STOT RE 1</b>	Specific target organ toxicity - repeated exposure, category 1
<b>STOT RE 2</b>	Specific target organ toxicity - repeated exposure, category 2
<b>Eye Irrit. 2</b>	Eye irritation, category 2
<b>Skin Irrit. 2</b>	Skin irritation, category 2
<b>STOT SE 3</b>	Specific target organ toxicity - single exposure, category 3
<b>Aquatic Acute 1</b>	Hazardous to the aquatic environment, acute toxicity, category 1
<b>H302+H312+H332</b>	Harmful if swallowed, in contact with skin or if inhaled.
<b>H372</b>	Causes damage to organs through prolonged or repeated exposure.
<b>H373</b>	May cause damage to organs through prolonged or repeated exposure.
<b>H319</b>	Causes serious eye irritation.
<b>H315</b>	Causes skin irritation.
<b>H335</b>	May cause respiratory irritation.
<b>H400</b>	Very toxic to aquatic life.

**LEGEND:**

- ADR: European Agreement concerning the carriage of Dangerous goods by Road
- ATE: Acute Toxicity Estimate
- CAS: Chemical Abstract Service Number
- CE50: Effective concentration (required to induce a 50% effect)

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- CE: Identifier in ESIS (European archive of existing substances)
- CLP: Regulation (EC) 1272/2008
- DNEL: Derived No Effect Level
- EmS: Emergency Schedule
- GHS: Globally Harmonized System of classification and labeling of chemicals
- IATA DGR: International Air Transport Association Dangerous Goods Regulations
- IC50: Immobilization Concentration 50%
- IMDG: International Maritime Code for dangerous goods
- IMO: International Maritime Organization
- INDEX: Identifier in Annex VI of CLP
- LC50: Lethal Concentration 50%
- LD50: Lethal dose 50%
- OEL: Occupational Exposure Level
- PBT: Persistent bioaccumulative and toxic as REACH Regulation
- PEC: Predicted environmental Concentration
- PEL: Predicted exposure level
- PNEC: Predicted no effect concentration
- REACH: Regulation (EC) 1907/2006
- RID: Regulation concerning the international transport of dangerous goods by train
- TLV: Threshold Limit Value
- TLV CEILING: Concentration that should not be exceeded during any time of occupational exposure.
- TWA: Time-weighted average exposure limit
- TWA STEL: Short-term exposure limit
- VOC: Volatile organic Compounds
- vPvB: Very Persistent and very Bioaccumulative as for REACH Regulation
- WGK: Water hazard classes (German).

**GENERAL BIBLIOGRAPHY**

1. Regulation (EC) 1907/2006 (REACH) of the European Parliament
  2. Regulation (EC) 1272/2008 (CLP) of the European Parliament
  3. Regulation (EU) 2020/878 (II Annex of REACH Regulation)
  4. Regulation (EC) 790/2009 (I Atp. CLP) of the European Parliament
  5. Regulation (EU) 286/2011 (II Atp. CLP) of the European Parliament
  6. Regulation (EU) 618/2012 (III Atp. CLP) of the European Parliament
  7. Regulation (EU) 487/2013 (IV Atp. CLP) of the European Parliament
  8. Regulation (EU) 944/2013 (V Atp. CLP) of the European Parliament
  9. Regulation (EU) 605/2014 (VI Atp. CLP) of the European Parliament
  10. Regulation (EU) 2015/1221 (VII Atp. CLP) of the European Parliament
  11. Regulation (EU) 2016/918 (VIII Atp. CLP) of the European Parliament
  12. Regulation (EU) 2016/1179 (IX Atp. CLP)
  13. Regulation (EU) 2017/776 (X Atp. CLP)
  14. Regulation (EU) 2018/669 (XI Atp. CLP)
  15. Regulation (EU) 2019/521 (XII Atp. CLP)
  16. Delegated Regulation (UE) 2018/1480 (XIII Atp. CLP)
  17. Regulation (EU) 2019/1148
  18. Delegated Regulation (UE) 2020/217 (XIV Atp. CLP)
  19. Delegated Regulation (UE) 2020/1182 (XV Atp. CLP)
  20. Delegated Regulation (UE) 2021/643 (XVI Atp. CLP)
  21. Delegated Regulation (UE) 2021/849 (XVII Atp. CLP)
  22. Delegated Regulation (UE) 2022/692 (XVIII Atp. CLP)
- The Merck Index. - 10th Edition
  - Handling Chemical Safety
  - INRS - Fiche Toxicologique (toxicological sheet)
  - Patty - Industrial Hygiene and Toxicology
  - N.I. Sax - Dangerous properties of Industrial Materials-7, 1989 Edition
  - IFA GESTIS website
  - ECHA website
  - Database of SDS models for chemicals - Ministry of Health and ISS (Istituto Superiore di Sanità) - Italy

**Note for users:**

The information contained in the present sheet are based on our own knowledge on the date of the last version. Users must verify the suitability and thoroughness of provided information according to each specific use of the product.

This document must not be regarded as a guarantee on any specific product property.

The use of this product is not subject to our direct control; therefore, users must, under their own responsibility, comply with the current health and safety laws and regulations. The producer is relieved from any liability arising from improper uses.

Provide appointed staff with adequate training on how to use chemical products.

**CALCULATION METHODS FOR CLASSIFICATION**

Chemical and physical hazards: Product classification derives from criteria established by the CLP Regulation, Annex I, Part 2. The data for evaluation of chemical-physical properties are reported in section 9.

Health hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 3, unless determined otherwise in Section 11.

Environmental hazards: Product classification is based on calculation methods as per Annex I of CLP, Part 4, unless determined otherwise in Section 12. Safety Data Sheet n.6 of 12/03/2024. Full revision of version n.5 of 09/01/2017.