Version: 1.01
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006

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

1.1. Product identifiers

Brand name: IONSOL 12W
Form: liquid
Main component: iron oxide (II,III)

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

Application for professional purposes. Used as an additive to chemical products.

1.3. Details of the supplier of the safety data sheet

Wion Technology sp. z o.o.
ul. Karłowicza 13/5
Katowice, 40-145, POLAND
office@wiontechnology.com

1.4. Emergency telephone

Tel. +48 669669346 (company)
Tel. 112 (emergency number)

SECTION 2: Hazards and identification

2.1. Classification of the substance or mixture

A mixture of Fe_3O_4 iron oxide nanoparticles in demineralized water. The particles were coated with a surfactant.

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.2. Label elements

Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.

2.3. Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

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SECTION 3: Composition/information on ingredients

3.1. Substances

Name	Product identifier	%	Classification according to Regulation (EC) No. 1272/2008 [CLP]
Iron oxide (II,III)	CAS: 1317-61-9 WE: 215-277-5	>10	-
Demineralized water	-	>80	-
Surfactant	-	<0,1%	-

Iron oxide (II, III) is present in the product in the form of a nanoform. The particle size is in the range of 8 to 40 nm as shown by transmission optical microscopy (TEM). The shape of the nanoparticles is round with a tendency to form small agglomerates.

3.2. Mixtures

No data available.

SECTION 4: First aid measures

4.1. Description of first-aid measures

Eye contact:
Remove contact lenses. Immediately flush eyes with water for at least 10 minutes. Seek help from an ophthalmologist.

Inhalation:
Provide access to fresh air. Provide a person warmth and peace. If a person is not breathing, is breathing irregularly, or if breathing has stopped, qualified personnel should give artificial respiration or administer oxygen.

Skin contact:
Take off contaminated clothing and shoes. The skin should be washed thoroughly with soap and water or a proven skin cleanser should be used. Do NOT use solvents or thinners.

Consumption:
If swallowed, consult a doctor immediately and show the packaging or label. Provide the person warmth and peace. Do NOT induce vomiting.

Protection of first aiders:
No action should be taken involving any personal risk or without suitable training. May be dangerous to the person providing mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it or wear gloves.

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

Potential acute health effects:

Inhalation: No known significant effects or critical hazards.
Ingestion: No known effects or critical hazards.
Skin contact: May cause allergic reaction.
Eye contact: No known significant effects or critical hazards.

Excessive exhibition:

Skin contact: irritation, redness.

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Ingestion: No specific data.
Inhalation: No specific data.
Eye contact: No specific data.

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

Notes to physician: In case of inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments: no specific data.

SECTION 5: First aid measures

5.1. Extinguishing media

Suitable extinguishing media: non-flammable mixture.

In a fire or if heated, a pressure increase will occur and the container may explode.

Unsuitable extinguishing media: no specific data.

5.2. Special hazards arising from the substance or mixture

Combustion products: carbon oxides, nitrogen oxides, sulfur oxides.

5.3. Advice for firefighters

Put on gas-tight protective clothing and breathing apparatus independent of the ambient air.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

No action should be taken involving any personal risk or without suitable training. Evacuate people from nearby areas. Do not grant entry permission to unnecessary and unsecured personnel. Do not touch or walk over spilled material. Avoid breathing vapors or mists. Provide adequate ventilation. In case of insufficient ventilation, an appropriate mask must be worn. Put on appropriate personal protective equipment.

Personal protection in section 8.

6.2. Environmental precautions

Avoid dispersal of spilled material, runoff or contact with soil, waterways, drains and sewage systems. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large amounts.

6.3. Methods and materials for containment and cleaning up

Small leak:

Stop leak if without risk. Remove containers from spilled area. Dissolve in water and collect if water-soluble. Alternatively, if water insoluble, soak up with an inert dry material and place in an appropriate waste disposal container. Utilize at a licensed waste disposal contractor.

Large leak:

Stop leak if without risk. Remove containers from spilled area. Come to release from the wind. Secure the outlets of the sewage system, water installations and entrances to cellars and closed areas. Wash any spills into a sewage treatment plant or proceed as follows. Spilled or spilled substances should be collected with the use of non-flammable substances such as: sand, earth, vermiculite, diatomaceous earth. Then place in containers and dispose of in accordance with local regulations. Utilize at a licensed

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waste disposal contractor. Contaminated absorbent material may present the same hazard as a spilled product.

6.4. Reference to other sections

See Section 8 for information on appropriate personal protective equipment. See Section 13 for additional waste treatment information. The information in this section contains generic advice and guidance. For information on specific uses according to the exposure scenarios, please refer to the identified uses list in Section 1.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Put on appropriate personal protective equipment (see Section 8). People with a history of skin sensitization problems should not be employed in any process using this product. Avoid contact with eyes, skin, or clothing. Do not swallow. Avoid breathing vapors or mists. Avoid release to the environment. Store in original container or an approved alternative container made of compatible material and tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not re-use the container.

Food, drink, and smoking should be prohibited in any area where this material is stored, handled and processed. Workers should wash their hands and face before eating, drinking or smoking. Before entering the dining room, remove contaminated clothing and protective equipment. See also Section 8 for additional information on hygiene measures.

Do not allow the mixture to dry out on its own and create dust.

7.2. Conditions for safe storage, including any incompatibilities

Store between the following temperatures: 0 to 35 °C (32 to 95 °F). Store in accordance with local regulations. Store in the original package, away from direct sunlight; in a dry, cool and well-ventilated room; away from incompatible materials (see Section 10), drinks and food. The container should remain closed and sealed until use. Containers that have been opened must be resealed and stored upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination. Before starting the transshipment or use, read the information on incompatible materials contained in sections 10,11 and 12.

7.3. Specific and use(s)

No specific data.

SECTION 8: Exposure controls/personal protecion

8.1. Control parameters

Ingredients with parameters subject to control at the workplace.

Contains no substances with occupational exposure limit values.

8.2. Exposure controls

Provide adequate general ventilation in the room and local ventilation at the workplace. Provide a shower and an eyewash station.

Inhalation:

No respiratory protection is required when properly handled. Mask must be used if vapors / dust / smoke / aerosols are released. Respirator selection should be made based on the known or expected exposure level, product hazards, and the safety limits of the mask selected. Use a properly fitted, air-purifying or air-fed respirator complying with an approved standard if a risk assessment indicates this is necessary.

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Use a respirator meeting the EN140 standard. Filter type: Organic Vapor Filter (Type A) and P3 Volatile Particulate Filter.

Eye and face protection:

Use protective glasses with side shields. Use eye protection in accordance with EN 166.

Hand and skin protection:

Use protective clothing made of natural materials or synthetic fibers. Body exposure should be minimized when handling the mixture. Use footwear intended for use in industrial plants to protect the feet. They are subject to approval by a health and safety specialist. Use gloves made of chemical resistant rubber to protect your hands. Taking into account the parameters specified by the glove manufacturer, check that the gloves retain their protective properties during use (in accordance with EN 374).

Environmental exposure controls:

No special preventive measures are required, apart from those mentioned in section 6.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

a	Form	liquid
b	Colour	black
c	Odor	none
d	Melting/freezing point	0 °C
e	Initial boiling point and boiling range	100 °C
f	Flammability	No data available
g	Lower and upper explosion limit	No data available
h	Flash point	No data available
i	Auto-ignition temperature	No data available
j	Decomposition temperature	No data available
k	pH	6 - 7
l	Kinematic viscosity	45 - 64 mm^2/s
m	Solubility	water soluble
n	Partition coefficient: n-octanol/water	No data available
o	Vapour pressure	No data available
p	Density	1,1 g/cm^3
q	Relative vapour density	No data available
r	Particle characteristics	more information in section 9.2

9.2. Other safety information

Information on the characteristics of the particles in the mixture can be obtained from the manufacturer's website in the tabs related to the specific product.

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SECTION 10: Stability and reactivity

10.1. Reactivity

No data available.

10.2. Chemical stability

The product is chemically stable under standard ambient conditions (room temperature).

10.3. Possibility of hazardous reactions

Violent reactions possible with:
The generally known reaction partners of water.

10.4. Conditions to avoid

No data available.

10.5. Incompatible materials

Strong oxidizing agents.

10.6. Hazardous decomposition products

See section 5.

SECTION 11: Toxicological information

11.1. Information on hazard classes as defined in Regulation (EC) No 1272/2008

Mixture
Acute toxicity
Oral: No data available
Inhalation: No data available
Dermal: No data available
Corrosive / irritating effect on the skin
No data available
Serious eye damage / eye irritation
No data available
Respiratory or skin sensitization
No data available
Mutagenic effect on reproductive cells
No data available
Carcinogenicity
No data available
Harmful effect on reproduction
No data available
Toxic effect on target organs - single exposure
No data available
Specific target organ toxicity - repeated exposure
No data available
Aspiration hazard
No data available

11.2. Additional information

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2018/605 or Commission Regulation (EU)2017/2100 at levels of 0.1% or higher.

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To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.
Hazardous properties cannot be excluded but are unlikely when the product is handled appropriately.

SECTION 12: Ecological information

12.1. Toxicity

No data available.

12.2. Persistence and degradability

No data available.

12.3. Bioaccumulative potential

No data available.

12.4. Mobility in soil

No data available.

12.5. Results of PBTand vPvB assessment

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

12.6. Endocrine disrupting properties

The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7. Other adverse effects

No data available.

SECTION 13: Disposal consideration

13.1. Waste treatment methods

Sewage disposal recommendations: Do not dispose of waste into sewer.

Product/Packaging disposal recommendations: Incinerate. Dispose in a safe manner in accordance with local/national regulations.

Ecology - waste materials: Avoid release to the environment.

SECTION 14: Transport information

14.1. UN number

ADR/RID: - IMDG: - IATA: -

14.2. UN proper shipping name

ADR/RID: Not dangerous goods.
IMDG: Not dangerous goods.
IATA: Not dangerous goods.

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14.3. Transport hazard class(es)

ADR/RID: - IMDG: - IATA: -

14.4. Packaging group

ADR/RID: - IMDG: - IATA: -

14.5. Environmental hazards

The substance does not pose any particular threat to the environment.

14.6. Special precautions for user

Not classified as dangerous in the meaning of transport regulations.

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

This material safety data sheet complies with the requirements of Regulation (EC) No. 1907/2006.

15.2. Chemical Safety Assessment

For this product a chemical safety assessment was not carried out

SECTION 16: Other information

The above information is believed to be correct but not exhaustive and should be considered only as recommended precautionary measures when handling the product. The information contained in this safety data sheet is based on the present state of technical and scientific knowledge. The purpose of this information is to draw attention to the obligation to comply with the safety and health rules set out in this safety data sheet with regard to the products we supply, including the recommended precautions related to their use and storage. The safety data sheet does not constitute a technical specification of the product and under no circumstances can it be used as a product warranty document. Failure to comply with the rules described in this safety data sheet, including in particular the use of appropriate precautions or the proper use of products, releases us from any liability for any damage suffered.

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