

Safety data sheet

according to 1907/2006/EC, Article 31

Printing date 02.05.2016

Revision: 02.05.2016

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

· **1.1 Product identifier**

· **Trade name:**

· **Article number:** 4731

· **Registration number** Mixture

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

· **Product category** PC37 Water treatment chemicals

· **Application of the substance / the mixture** Water treatment

· **Uses advised against**

Any use carrying a risk of direct contact with eyes/skin where workers are exposed without adequate personal protective equipment (PPE).

Any use involving aerosol formation or vapour or dust release in excess of the assigned workplace exposure limits where workers are exposed without suitable respiratory protective equipment (RPE).

Processes involving extreme heat use advised against.

The product is intended exclusively for industrial and professional use.

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

· **Manufacturer/Supplier:**

· **Further information obtainable from:** Product safety department.

· **1.4 Emergency telephone number:**

SECTION 2: Hazards identification

· **2.1 Classification of the substance or mixture**

· **Classification according to Regulation (EC) No 1272/2008**



GHS03 flame over circle

Ox. Sol. 2 H272 May intensify fire; oxidiser.



GHS08 health hazard

Resp. Sens. 1 H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.



GHS05 corrosion

Skin Corr. 1B H314 Causes severe skin burns and eye damage.

Eye Dam. 1 H318 Causes serious eye damage.



GHS07

Acute Tox. 4 H302 Harmful if swallowed.

Acute Tox. 4 H332 Harmful if inhaled.

Skin Sens. 1 H317 May cause an allergic skin reaction.

· **2.2 Label elements**

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

The product is classified and labelled according to the CLP regulation.

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- **Hazard pictograms** GHS03, GHS05, GHS07, GHS08
- **Signal word** Danger
- **Hazard-determining components of labelling:**
 - 3-bromo-1-chloro-5,5-dimethylimidazolidine-2,4-dione
 - 1,3-dichloro-5,5-dimethylhydantoin
 - 1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione
- **Hazard statements**
 - H272 May intensify fire; oxidiser.
 - H302+H332 Harmful if swallowed or if inhaled.
 - H314 Causes severe skin burns and eye damage.
 - H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - H317 May cause an allergic skin reaction.
- **Precautionary statements**
 - P221 Take any precaution to avoid mixing with combustibles.
 - P260 Do not breathe dust.
 - P280 Wear protective gloves/protective clothing/eye protection/face protection.
 - P270 Do not eat, drink or smoke when using this product.
 - P303+P361+P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/shower.
 - P305+P351+P338 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
- **2.3 Other hazards**
- **Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.

SECTION 3: Composition/information on ingredients

- **3.2 Chemical characterisation: Mixtures**
- **Description:** Mixture of substances listed below with nonhazardous additions.

- **Dangerous components:**

CAS: 126-06-7 EINECS: 204-766-9	3-bromo-1-chloro-5,5-dimethylimidazolidine-2,4-dione ⚠ Ox. Liq. 2, H272; ⚠ Skin Corr. 1B, H314; ⚠ Acute Tox. 4, H302; Acute Tox. 4, H312; Acute Tox. 4, H332	50-100%
CAS: 118-52-5 EINECS: 204-258-7	1,3-dichloro-5,5-dimethylhydantoin ⚠ Ox. Sol. 2, H272; ⚠ Resp. Sens. 1, H334; ⚠ Skin Corr. 1B, H314; Eye Dam. 1, H318; ⚠ Acute Tox. 4, H302	25-50%
CAS: 89415-87-2 ELINCS: 401-570-7	1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione ⚠ Ox. Sol. 1, H271; ⚠ Acute Tox. 3, H331; ⚠ Skin Corr. 1B, H314; ⚠ Aquatic Acute 1, H400; ⚠ Acute Tox. 4, H302; Skin Sens. 1, H317	10-25%

- **Additional information:** For the wording of the listed hazard phrases refer to section 16.

SECTION 4: First aid measures

- **4.1 Description of first aid measures**
- **General information:**
 - Immediately remove any clothing soiled by the product.
 - Symptoms of poisoning may even occur after several hours; therefore medical observation for at least 48 hours after the accident.
- **After inhalation:** Supply fresh air; consult doctor in case of complaints.
- **After skin contact:**
 - DO NOT DELAY!
 - Immediately wash with water and soap and rinse thoroughly.
 - If skin irritation continues, consult a doctor.

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- **After eye contact:**
DO NOT DELAY!
Check for and remove any contact lenses.
Rinse opened eye for several minutes under running water. Then consult a doctor.
- **After swallowing:**
DO NOT DELAY!
Call for a doctor immediately.
Wash mouth out with water
Drink plenty of water and provide fresh air. Call for a doctor immediately.
Do not induce vomiting; call for medical help immediately.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
- **4.2 Most important symptoms and effects, both acute and delayed**
No further relevant information available.
- **Information for doctor:** Treat symptomatically and supportively.
- **4.3 Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

SECTION 5: Firefighting measures

- **5.1 Extinguishing media**
- **Suitable extinguishing agents:**
CO₂, powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
- **For safety reasons unsuitable extinguishing agents:** Water with full jet
- **5.2 Special hazards arising from the substance or mixture**
During heating or in case of fire poisonous gases are produced.
- **5.3 Advice for firefighters**
- **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.

SECTION 6: Accidental release measures

- **6.1 Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
- **6.2 Environmental precautions:** Do not allow to penetrate the ground/soil.
- **6.3 Methods and material for containment and cleaning up:**
Ensure adequate ventilation.
Pick up mechanically.
Send for recovery or disposal in suitable receptacles.
- **6.4 Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

SECTION 7: Handling and storage

- **7.1 Precautions for safe handling**
Ensure good ventilation/exhaustion at the workplace.
Prevent formation of dust.
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product.
The product must only be handled by authorised, trained and experienced professionals under strictly controlled conditions.

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- **Information about fire - and explosion protection:** Keep respiratory protective device available.
- **7.2 Conditions for safe storage, including any incompatibilities**
- **Storage:**
- **Requirements to be met by storerooms and receptacles:** Prevent any seepage into the ground.
- **Information about storage in one common storage facility:**
 - Store away from oxidising agents.
 - Store away from foodstuffs.
 - Do not store together with acids.
- **Further information about storage conditions:**
 - Keep container tightly sealed.
 - Store in a banded area.
 - Protect from heat and direct sunlight.
 - Store in cool, dry conditions in well sealed receptacles.
- **7.3 Specific end use(s)** No further relevant information available.

SECTION 8: Exposure controls/personal protection

- **Additional information about design of technical facilities:** No further data; see item 7.

· 8.1 Control parameters

- **Ingredients with limit values that require monitoring at the workplace:**

118-52-5 1,3-dichloro-5,5-dimethylhydantoin

WEL	Short-term value: 0.4 mg/m ³
	Long-term value: 0.2 mg/m ³

- **Additional information:** The lists valid during the making were used as basis.
- **8.2 Exposure controls**
- **Personal protective equipment:**
 - Select PPE appropriate for the operations taking place taking into account the product properties.
- **General protective and hygienic measures:**
 - Take note of assigned Workplace Exposure Limits.
 - Keep away from foodstuffs, beverages and feed.
 - Immediately remove all soiled and contaminated clothing
 - Wash hands before breaks and at the end of work.
 - Avoid contact with the eyes and skin.
 - Do not eat, drink, smoke or sniff while working.
 - Do not breath dust
- A safe system of work must be formulated and followed to ensure safe working with this product. Relevant workers must receive suitable and sufficient training and supervision.
- Ensure that eyewash stations and safety showers are close to the workstation location.
- Depending on the degree of exposure, periodic medical examination is suggested.
- **Respiratory protection:**
 - Use suitable respiratory protective device in case of insufficient ventilation.
 - Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
 - If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
- **Protection of hands:**



Protective gloves

The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation

· **Material of gloves**

The selection of the suitable gloves does not only depend on the material, but also on further marks of quality and varies from manufacturer to manufacturer. As the product is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the

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application.

- **Penetration time of glove material**

The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.

- **Eye protection:**



Tightly sealed goggles

- **Body protection:**

Impervious protective clothing

Body protection must be chosen depending on product properties, activity and possible exposure.

SECTION 9: Physical and chemical properties

- **9.1 Information on basic physical and chemical properties**

- **General Information**

- **Appearance:**

Form: Granulate

Colour: White

- **Odour:** Pungent

- **Odour threshold:** Not determined.

- **pH-value (5 g/l) at 20 °C:** 3-4

- **Change in condition**

Melting point/Melting range: 120 °C

Boiling point/Boiling range: 165 °C (decomp)

- **Flash point:** >100 °C

- **Flammability (solid, gaseous):** Not determined.

- **Ignition temperature:**

Decomposition temperature: Not determined.

- **Self-igniting:** Product is not self-igniting.

- **Danger of explosion:** Product does not present an explosion hazard.

- **Explosion limits:**

Lower: Not determined.

Upper: Not determined.

- **Vapour pressure:** Not applicable.

- **Density:** Not determined.

- **Relative density** Not determined.

- **Vapour density** Not applicable.

- **Evaporation rate** Not applicable.

- **Solubility in / Miscibility with water at 20 °C:** 5 g/l

- **Partition coefficient (n-octanol/water):** -3 log POW

- **Viscosity:**

Dynamic: Not applicable.

Kinematic: Not applicable.

- **9.2 Other information** No further relevant information available.

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SECTION 10: Stability and reactivity

- **10.1 Reactivity** No further relevant information available.
- **10.2 Chemical stability**
- **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
- **10.3 Possibility of hazardous reactions** No dangerous reactions known.
- **10.4 Conditions to avoid** No further relevant information available.
- **10.5 Incompatible materials:**
 - Strong acids and oxidising agents
 - Strong bases.
- **10.6 Hazardous decomposition products:**
 - Carbon monoxide and carbon dioxide
 - Nitrogen oxides (NO_x)
 - Chlorine
 - Bromine compounds

SECTION 11: Toxicological information

- **11.1 Information on toxicological effects**
- **Acute toxicity**
 - Harmful if swallowed or if inhaled.
- **Primary irritant effect:**
- **Skin corrosion/irritation**
 - Causes severe skin burns and eye damage.
- **Serious eye damage/irritation**
 - Causes serious eye damage.
- **Respiratory or skin sensitisation**
 - May cause allergy or asthma symptoms or breathing difficulties if inhaled.
 - May cause an allergic skin reaction.
- **CMR effects (carcinogenicity, mutagenicity and toxicity for reproduction)**
- **Germ cell mutagenicity** Based on available data, the classification criteria are not met.
- **Carcinogenicity** Based on available data, the classification criteria are not met.
- **Reproductive toxicity** Based on available data, the classification criteria are not met.
- **STOT-single exposure** Based on available data, the classification criteria are not met.
- **STOT-repeated exposure** Based on available data, the classification criteria are not met.
- **Aspiration hazard** Based on available data, the classification criteria are not met.

SECTION 12: Ecological information

- **12.1 Toxicity**
- **Aquatic toxicity:** No further relevant information available.
- **12.2 Persistence and degradability** No further relevant information available.
- **12.3 Bioaccumulative potential** Product is not expected to bioaccumulate.
- **12.4 Mobility in soil** No further relevant information available.
- **Additional ecological information:**
- **General notes:**
 - Water hazard class 2 (German Regulation) (Self-assessment): hazardous for water
 - Do not allow product to reach ground water, water course or sewage system.
 - Must not reach sewage water or drainage ditch undiluted or unneutralised.
 - Danger to drinking water if even small quantities leak into the ground.
- **12.5 Results of PBT and vPvB assessment**
- **PBT:** Not applicable.
- **vPvB:** Not applicable.
- **12.6 Other adverse effects** No further relevant information available.

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SECTION 13: Disposal considerations

- **13.1 Waste treatment methods**

- **Recommendation**

Recommended Hierarchy of Controls:

- Minimise waste;
- Reuse if not contaminated;
- Recycle, if possible; or
- Safe disposal (if all else fails).

Must not be disposed together with household garbage. Do not allow product to reach sewage system.

Contact waste processors for recycling information.

Used, degraded or contaminated product may be classified as hazardous waste. Anyone classifying hazardous waste and determining its fate must be qualified in accordance with state and international legislation.

- **European waste catalogue**

Waste key numbers in accordance with the European Waste Catalogue (EWC) are origin-referred defined. Since this product is used in several industries, no waste key can be provided by the supplier. The waste key number should be determined in arrangement with your waste disposal partner or the responsible authority.

- **Uncleaned packaging:**

- **Recommendation:**

Disposal must be made according to official regulations.

Container remains hazardous when empty. Continue to observe all precautions.

Containers, even those that are "empty," may contain residues that can develop hazardous gases and vapours upon heating. Do not cut, drill, grind, weld, or perform similar operations on or near empty containers.

- **Recommended cleansing agents:** Water, if necessary together with cleansing agents.

SECTION 14: Transport information

- **14.1 UN-Number**

- **ADR, IMDG, IATA**

UN3085

- **14.2 UN proper shipping name**

- **ADR**

3085 OXIDIZING SOLID, CORROSIVE, N.O.S. (1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione)

- **IMDG, IATA**

OXIDIZING SOLID, CORROSIVE, N.O.S. (1,3-dichloro-5-ethyl-5-methylimidazolidine-2,4-dione)

- **14.3 Transport hazard class(es)**

- **ADR**



- **Class**

5.1 Oxidising substances.

- **Label**

5.1+8

- **IMDG**



- **Class**

5.1 Oxidising substances.

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· Label 5.1/8

· IATA



· Class 5.1 Oxidising substances.
 · Label 5.1 (8)

· 14.4 Packing group
 · ADR, IMDG, IATA III

· 14.5 Environmental hazards: Not applicable.

· 14.6 Special precautions for user Warning: Oxidising substances.
 · Danger code (Kemler): 80
 · EMS Number: F-A,S-Q
 · Stowage Category A

· 14.7 Transport in bulk according to Annex II of
 Marpol and the IBC Code Not applicable.

· Transport/Additional information:

· ADR
 · Limited quantities (LQ) 5 kg
 · Excepted quantities (EQ) Code: E1
 Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 1000 g
 · Transport category 3
 · Tunnel restriction code E

· IMDG
 · Limited quantities (LQ) 5 kg
 · Excepted quantities (EQ) Code: E1
 Maximum net quantity per inner packaging: 30 g
 Maximum net quantity per outer packaging: 1000 g

· UN "Model Regulation": UN 3085 OXIDIZING SOLID, CORROSIVE, N.O.S.
 (1 , 3 - D I C H L O R O - 5 - E T H Y L - 5 -
 METHYLIMIDAZOLIDINE-2,4-DIONE), 5.1 (8), III

SECTION 15: Regulatory information

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

- Directive 2012/18/EU
- Named dangerous substances - ANNEX I None of the ingredients is listed.
- Seveso category P8
- Qualifying quantity (tonnes) for the application of lower-tier requirements 50 t
- Qualifying quantity (tonnes) for the application of upper-tier requirements 200 t

· National regulations:

Class	Share in %
I	15.9

· 15.2 Chemical safety assessment: A Chemical Safety Assessment has not been carried out.

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SECTION 16: Other information

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

- **Relevant phrases**

- H271 May cause fire or explosion; strong oxidiser.
- H272 May intensify fire; oxidiser.
- H302 Harmful if swallowed.
- H312 Harmful in contact with skin.
- H314 Causes severe skin burns and eye damage.
- H317 May cause an allergic skin reaction.
- H318 Causes serious eye damage.
- H331 Toxic if inhaled.
- H332 Harmful if inhaled.
- H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled.
- H400 Very toxic to aquatic life.

- **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)
- IMDG: International Maritime Code for Dangerous Goods
- IATA: International Air Transport Association
- GHS: Globally Harmonised System of Classification and Labelling of Chemicals
- EINECS: European Inventory of Existing Commercial Chemical Substances
- ELINCS: European List of Notified Chemical Substances
- CAS: Chemical Abstracts Service (division of the American Chemical Society)
- LD50: Lethal dose, 50 percent
- PBT: Persistent, Bioaccumulative and Toxic
- vPvB: very Persistent and very Bioaccumulative
- LC50: Lethal concentration, 50 percent
- SVHC: Substances of Very High Concern
- Ox. Liq. 2: Oxidizing liquids – Category 2
- Ox. Sol. 1: Oxidizing solids – Category 1
- Ox. Sol. 2: Oxidizing solids – Category 2
- Acute Tox. 4: Acute toxicity – Category 4
- Acute Tox. 3: Acute toxicity – Category 3
- Skin Corr. 1B: Skin corrosion/irritation – Category 1B
- Eye Dam. 1: Serious eye damage/eye irritation – Category 1
- Resp. Sens. 1: Respiratory sensitisation – Category 1
- Skin Sens. 1: Skin sensitisation – Category 1
- Aquatic Acute 1: Hazardous to the aquatic environment - acute aquatic hazard – Category 1

Annex: Exposure scenario

- **Description of the activities / processes covered in the Exposure Scenario**

See section 1 of the annex to the Safety Data Sheet.

- **Conditions of use**

- **Duration and frequency** 5 workdays/week.

- **Physical parameters**

- **Physical state** Solid

- **Concentration of the substance in the mixture** The substance is main component.

- **Other operational conditions**

- **Other operational conditions affecting environmental exposure** No special measures required.

- **Other operational conditions affecting worker exposure**

- Avoid contact with eyes.
- Avoid contact with the skin.
- Avoid long-term or repeated skin contact.
- Avoid breathing particles.
- Keep away from combustible material.

- **Other operational conditions affecting consumer exposure** No special measures required.

- **Other operational conditions affecting consumer exposure during the use of the product** Not applicable.

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- **Risk management measures**
- **Worker protection**
- **Organisational protective measures** No special measures required.
- **Technical protective measures** Ensure that suitable extractors are available on processing machines
- **Personal protective measures**
 - Do not inhale dust / smoke / mist.
 - Avoid contact with the skin.
 - Avoid contact with the eyes.
 - Tightly sealed goggles
 - Use suitable respiratory protective device in case of insufficient ventilation.
 - Respirator selection must be based on known or anticipated exposure levels, the hazards of the product and the safe working limits of the selected respirator.
 - If respiratory protection is required, institute a complete respiratory protection program including selection, fit testing, training, maintenance and inspection.
 - Protective gloves
 - The glove material has to be impermeable and resistant to the product/ the substance/ the preparation.
 - Selection of the glove material on consideration of the penetration times, rates of diffusion and the degradation
- **Measures for consumer protection** Ensure adequate labelling.
- **Environmental protection measures**
- **Water**
 - Generally, prior to the introduction of wastewater into wastewater treatment plants a neutralisation is required.
- **Disposal measures** Ensure that waste is collected and contained.
- **Disposal procedures**
 - Must not be disposed together with household garbage. Do not allow product to reach sewage system.
- **Waste type** Partially emptied and uncleaned packaging
- **Exposure estimation**
- **Consumer** Not relevant for this Exposure Scenario.
- **Guidance for downstream users** No further relevant information available.

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