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

Product identifier: Hydrosulphite F non-food grade.

Relevant identified uses of the substance or mixture and uses advised against:

Relevant identified uses: Chemical, auxiliary / finishing agent for the textile industry.

Recommended use: Reducing agents, Bleaching agents, for industrial use only, inorganic reducing agents.

For the detailed identified uses of the product see appendix of the safety data sheet.

Company name:

Nexchem Ltd
Unit 3 Barshaw Park
Leycroft Road
Leicester
LE4 1ET
Tel: 0116 2311130
24/7 Emergency Tel: 0800 246 1274
Email: sales@nexchem.co.uk

2. HAZARDS IDENTIFICATION

For the classification of the mixture the following methods have been applied: extrapolation on the concentration levels of the hazardous substances, on basis of test results and after evaluation of experts. The methodologies used are mentioned at the respective test results.

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567:

Self-heat. 1	H251 Self-heating: may catch fire.
Acute Tox. 4 (oral)	H302 Harmful if swallowed.
Eye Dam./Irrit. 2	H319 Causes serious eye irritation.

For the classifications not written out in full in this section the full text can be found in section 16.

Label elements:

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567:

Pictogram:

Signal Word: Danger

[cont…]

Hazard statement:

H251:	Self-heating: may catch fire.
H302:	Harmful if swallowed.
H319:	Causes serious eye irritation.

Precautionary Statements (Prevention):

P220:	Keep/store away from clothing/combustible materials.
P235 + P410:	Keep cool. Protect from sunlight.
P264:	Wash with plenty of water and soap thoroughly after handling.
P270:	Do not eat, drink or smoke when using this product.
P280:	Wear protective gloves, protective clothing and eye or face protection.

Precautionary Statements (Response):

P312:	Call a POISON CENTER or doctor/physician if you feel unwell.
P305 + P351 + P338:	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P301 + P330:	IF SWALLOWED: Rinse mouth.
P337 + P311:	If eye irritation persists: Call a POISON CENTRE or doctor/physician.

Precautionary Statements (Storage):

P407:	Maintain air gap between stacks/pallets.
P420:	Store away from other materials.
P413:	Store bulk masses greater than 1kg/ 2,2lbs at temperatures not exceeding 50°C/ 122°F.

Precautionary Statements (Disposal):

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

Labelling of special preparations (GHS):

EUH031:	Contact with acids liberates toxic gas.

Hazard determining component(s) for labelling: Sodium Dithionite.

Other hazards:

According to GB-CLP Regulations UK SI 2019/720 and UK SI 2020/1567:

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

The product does not contain a substance above legal limits fulfilling the PBT (persistent/bioaccumulative/toxic) criteria or the vPvB (very persistent/very bioaccumulative) criteria.

[cont…]

3. COMPOSITION / INFORMATION ON INGREDIENTS

Substances: Not applicable.

Mixtures:

Chemical nature: Sodium dithionite $Na_2S_2O_4$.
Stabilising agents.

Hazardous ingredients (GHS):

Sodium Dithionite:

Content (w/w):	>=75% - <=100%	Self-heat. 1
CAS Number:	7775-14-6	Acute Tox. 4 (oral)
EC Number:	231-890-0	Eye Dam./Irrit. 2
REACH registration number:	01-2119520510-57-XXXX	EUH031
Index number:	016-028-00-1	

For the classifications not written out in full in this section, including the hazard classes and the hazard statements, the full text is listed in section 16.

4. FIRST AID MEASURES

Description of first aid measures: Remove contaminated clothing.

If inhaled: After inhalation of decomposition products, remove the affected person to a source of fresh air and keep calm. Provide medical aid.
If difficulties occur after dust has been inhaled, remove to fresh air and seek medical attention.

On skin contact: Wash thoroughly with soap and water.

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

On ingestion: Immediately rinse mouth and then drink 200 – 300ml of water, seek medical attention.

Most important symptoms and effects, both acute and delayed:

Symptoms: Information, i.e. additional information on symptoms and effects may be included in the GHS labelling phrases available in Section 2 and in the Toxicological assessments available in Section 11.

Hazards: Respiratory sensitisation may result in allergic (asthma-like) signs in the lower respiratory tract including wheezing, shortness of breath and difficulty breathing, the onset of which may be delayed. Risk of sulphur dioxide formation by reaction with gastric acid after swallowing.

Indication of any immediate medical attention and special treatment needed:

Treatment: Treat according to symptoms (decontamination, vital functions), no known specific antidote.

[cont…]

5. FIRE-FIGHTING MEASURES

Extinguishing media:

Suitable extinguishing media: Water in copious quantities.

Unsuitable extinguishing media for safety reasons: Water spray.

Additional information: Self inflammation possible by spray waters or waters in small quantities.

Special hazards arising from the substance or mixture:

Endangering substances: Sulphur dioxide.

Advice: The substances/groups of substances mentioned can be released in case of fire.

Advice for fire-fighters:

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

Further information: Risk of bursting. Cool endangered containers with water-spray. Avoid direct contact with water. Separate containers involved in fire and keep under observation for at least 24 hours. Contaminated extinguishing water must be disposed of in accordance with official regulations.

6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures:

Avoid contact with the skin, eyes and clothing. Use breathing apparatus if exposed to vapours/dust/aerosol.

Environmental precautions: Do not discharge into drains/surface waters/groundwater. Do not discharge into the subsoil/soil. Retain and dispose of contaminated wash water.

Methods and material for containment and cleaning up:

For small amounts: Pick up in dry form. Dispose of absorbed material in accordance with regulations.

For large amounts: Pick up in dry form. Dispose of absorbed material in accordance with regulations.

Reference to other sections: Information regarding exposure controls/personal protection and disposal considerations can be found in section 8 and 13.

7. HANDLING AND STORAGE

Precautions for safe handling: Ensure thorough ventilation of stores and work areas. Breathing must be protected when large quantities are decanted without local exhaust ventilation. Do not open warm or swollen product containers. Remove persons to safety and alert fire brigade.

Protection against fire and explosion: The product is liable to self-heating but not explosive.

Conditions for safe storage, including any incompatibilities:

Segregate from acids. Segregate from oxidants.

[cont…]

Suitable materials for containers: Carbon steel (Iron), enamelled, Stainless steel 1.4541, High density polyethylene (HDPE), Low density polyethylene (LDPE), tinned carbon steel (Tinplate), Stainless steel 1.4301 (V2), Stove-lacquer R 78433, Stainless steel 1.4306 (V2A).

Further information on storage conditions: Protect against moisture. Protect against heat. Keep container tightly closed in a cool, well-ventilated place. Maintain air gap between stacks or pallets.

Storage stability: Large quantities of the product should not be kept in stockrooms with sprinkler installations due to a possible self-inflammation by small quantities of water.
Improper storage may result in a pressure build-up in the storage containers.
The packed product is not damaged by low temperatures or by frost.

Protect from temperatures above: 50 °C.
The packed product must be protected against exceeding the indicated temperature.

Specific end use(s): See exposure scenario(s) in the attachment to this safety data sheet.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters:

PNEC:

Freshwater:	1 mg/l
Marine water:	0.1 mg/l
Sediment (freshwater):	Exposure of sediment is not expected.
Sediment (marine water):	Exposure of sediment is not expected.
STP:	45.3 mg/l

DNEL:

Worker:	Long-term exposure- systemic effects, Inhalation: 206 mg/m3
Consumer:	Long-term exposure- systemic effects, Inhalation: 61 mg/m3
Consumer:	Long-term exposure- systemic effects, Oral: 7.9 mg/kg

Exposure controls:

Personal protective equipment:

Respiratory equipment: Breathing protection if dusts are formed. Breathing protection if gases/vapours are formed. Combination filter for gases/vapours of organic, inorganic, acid inorganic and alkaline compounds (e.g., EN 14387 Type ABEK). Self-contained breathing apparatus.

Hand protection: Chemical resistant protective gloves (EN 374)
Suitable materials also with prolonged, direct contact (Recommended: Protective index 6, corresponding > 480 minutes of permeation time according to EN 374):
polyvinylchloride (PVC) - 0.7 mm coating thickness
butyl rubber (butyl) - 0.7 mm coating thickness
nitrile rubber (NBR) - 0.4 mm coating thickness

[cont…]

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

Eye protection: Safety glasses with side-shields (frame goggles) (e.g., EN 166).

Body protection: Body protection must be chosen depending on activity and possible exposure, e.g. apron, protecting boots, chemical-protection suit (according to EN 14605 in case of splashes or EN ISO 13982 in case of dust).

General safety and hygiene measures: Avoid contact with the skin, eyes and clothing. Do not breathe dust. Wearing of closed work clothing is recommended. Handle in accordance with good industrial hygiene and safety practice. When using, do not eat, drink or smoke.

9. PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties:

Form: Powder
Colour: White
Odour: Pungent odour
Odour threshold: Not determined due to potential health hazard by inhalation.
pH value: 5.5 – 8.5 (50g/l, 20°C)
Decomposition point: >80°C
Thermal decomposition above the indicated temperature is possible.
Boiling point: The substance/product decomposes therefore not determined.
Flash point: Not applicable.
Evaporation rate: The product is a non-volatile solid.
Flammability: Risk of spontaneous ignition.
Flammability of Aerosol products: Not applicable, the product does not form flammable aerosols.
Lower explosion limit: For solids not relevant for classification and labelling.
Upper explosion limit: For solids not relevant for classification and labelling.
Vapour pressure: The substance/ product decomposes therefore not determined.
Density: Approx. 2.4 g/cm3 (20°C). Literature data.
Relative vapour density (air): The product is a non-volatile solid.
Solubility in water: Slow decomposition
>150g/l (20°C)
Partitioning coefficient n-octanol/water (log Kow): Not applicable
Self-ignition: Temperature: >80°C
Thermal decomposition: 80°C. Thermal decomposition above the indicated temperature is possible.
Viscosity, dynamic: Not applicable.
Viscosity, kinematic: Not applicable, the product is a solid.
Explosion hazard: Not explosive.
Fire promoting properties: Not fire-propagating.

[cont…]

Other information:

Self-heating ability: It is a substance capable of spontaneous heating.

Minimum ignition energy: (1 bar)
Grain size distribution: 30-150 µm
The product is not capable of a dust explosion.

Bulk density: approx. 1,000 kg/m3

pKA: Not applicable, study scientifically not justified.

Hygroscopy: Non-hygroscopic.

Surface tension: Based on chemical structure, surface activity is not to be expected.

Grain size distribution: 60-100 µm

Angle of repose: 41°

10. STABILITY AND REACTIVITY

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

Corrosion to metals: Corrosive effects to metal are not anticipated.

Formation of flammable gases: Forms no flammable gases in the presence of water.

Chemical stability: The product is stable if stored and handled as prescribed/indicated.

Possibility of hazardous reactions: Reacts with acids. Reacts with oxidizing agents. Reacts with damp air. Self-inflammation possible by spray waters or waters in small quantities. On contact with water, gaseous decomposition products are formed, which cause build-up of pressure in tightly closed containers.

Conditions to avoid: > 50 °C
Avoid humidity.

Incompatible materials:

Substances to avoid: Acids, oxidizing agents.

Hazardous decomposition products: Sulphur dioxide.

11. TOXICOLOGICAL INFORMATION

Information on toxicological effects:

Acute toxicity:

Assessment of acute toxicity: Of moderate toxicity after single ingestion. Virtually nontoxic by inhalation. Virtually nontoxic after a single skin contact. The product has not been fully tested. The statements have been derived in parts from products of a similar structure or composition.

Experimental/calculated data:

LD50 rat (oral): approx. 2,500 mg/kg (BASF-Test)
The European Union (EU) has classified this substance as 'harmful'.

[cont…]

LC50 rat (by inhalation): > 5.5 mg/l 4 h (OECD Guideline 403)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

LD50 rat (dermal): > 2,000 mg/kg (OECD Guideline 402)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Irritation:
Assessment of irritating effects: Not irritating to the skin. Eye contact causes irritation.

Experimental/calculated data:
Skin corrosion/irritation: **Rabbit:** Slightly irritating. (BASF-Test)

Serious eye damage/irritation: **Rabbit:** Slightly irritant. (OECD Guideline 405)

Respiratory/Skin sensitization:
Experimental/calculated data:
Mouse Local Lymph Node Assay (LLNA) Mouse: Non-sensitizing. (OECD Guideline 429)

Germ cell mutagenicity:
Assessment of mutagenicity: Most of the results from the available studies show no evidence of a mutagenic effect. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Carcinogenicity:
Assessment of carcinogenicity: In long-term studies in rats in which the substance was given by feed, a carcinogenic effect was not observed. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Reproductive toxicity:
Assessment of reproduction toxicity: No data available.

Developmental toxicity:
Assessment of teratogenicity: No indications of a developmental toxic / teratogenic effect were seen in animal studies. The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Specific target organ toxicity (single exposure):
Assessment of STOT single: Based on the available information there is no specific target organ toxicity to be expected after a single exposure.

Repeated dose toxicity and Specific target organ toxicity (repeated exposure): No data available.

Aspiration hazard: Not applicable.

[cont…]

12. ECOLOGICAL INFORMATION

Toxicity:

Assessment of aquatic toxicity: Acutely harmful for aquatic organisms. The inhibition of the degradation activity of activated sludge is not anticipated when introduced to biological treatment plants in appropriate low concentrations.

Toxicity to fish: LC50 (96 h) 62.3 mg/l, Leuciscus idus (DIN 38412 Part 15, static)
Nominal concentration.

Aquatic invertebrates: EC50 (48 h) 98.3 mg/l, Daphnia magna (Directive 79/831/EEC, static)
Nominal concentration.

Aquatic plants: EC50 (72 h) 206 mg/l (growth rate), Scenedesmus subspicatus (DIN 38412 Part 9, static)
Nominal concentration.

Microorganisms/Effect on activated sludge: EC20 (3 h) 120.5 mg/l, (OECD Guideline 209, aquatic)

Chronic toxicity to fish: No observed effect concentration (34 d) >= 316 mg/l, Brachydanio rerio (OECD Guideline 210, Flow through.)
The product has not been tested. The statement has been derived from substances/products of a similar structure or composition.

Chronic toxicity to aquatic invertebrates: No observed effect concentration (21 d) > 10 mg/l, Daphnia magna (semi static)
Nominal concentration.

Assessment of terrestrial toxicity: Study scientifically not justified.

Persistence and degradability:

Assessment biodegradation and elimination (H2O):
Inorganic product which cannot be eliminated from water by biological purification processes.
Study scientifically not justified.

Assessment of stability in water: In contact with water the substance will hydrolyse rapidly.

Information on Stability in Water (Hydrolysis): t1/2 1.5 h (50 °C, pH value 8.5), (Directive 84/449/EEC, C.10)

Bioaccumulative potential:

Assessment bioaccumulation potential: Because of the n-octanol/water distribution coefficient (log Pow) accumulation in organisms is not to be expected.

Bioaccumulation potential: Study scientifically not justified.

Mobility in soil:

Assessment transport between environmental compartments:

Adsorption in soil: Adsorption to solid soil phase is not expected.

[cont…]

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

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

Additional information:

Chemical oxygen demand (COD): approx. 210 mg/g

Adsorbable organically bound halogen (AOX): This product contains no organically bound halogen.

Other ecotoxicological advice: Do not allow to enter soil, waterways or wastewater channels. Higher concentrations of the substance may cause a strong chemical oxygen consumption in biological sewage-treatment plants and/or waterways.

13. DISPOSAL CONSIDERATIONS

Waste treatment methods: Must be disposed of or incinerated in accordance with local regulations.
The UK Environmental Protection (Duty of Care) Regulations (EP) and amendments should be noted (United Kingdom).
This product and any uncleaned containers must be disposed of as hazardous waste in accordance with the 2005 Hazardous Waste Regulations and amendments (United Kingdom).

Contaminated packaging: Uncontaminated packaging can be re-used.
Packs that cannot be cleaned should be disposed of in the same manner as the contents.

14. TRANSPORT INFORMATION

Land transport:

ADR:

UN number: UN1384

UN proper shipping name: Sodium Dithionite (Sodium Hydrosulphite)

Transport hazard class(es): 4.2

Packing group: II

Environmental hazards: No

Tunnel code: D/E

Special precautions for user: Protect from wetness.

RID:

UN number: UN1384

UN proper shipping name: Sodium Dithionite (Sodium Hydrosulphite)

Transport hazard class(es): 4.2

Packing group: II

Environmental hazards: No

Special precautions for user: Protect from wetness.

[cont…]

Inland waterway transport:
ADN:

UN number:	UN1384
UN proper shipping name:	Sodium Dithionite (Sodium Hydrosulphite)
Transport hazard class(es):	4.2
Packing group:	II
Environmental hazards:	No
Special precautions for user:	Protect from wetness.

Transport in inland waterway vessel: Not evaluated.

Sea transport:
IMDG:

UN number:	UN1384
UN proper shipping name:	Sodium Dithionite (Sodium Hydrosulphite)
Transport hazard class(es):	4.2
Packing group:	II
Environmental hazards:	No
Marine pollutant:	No
Special precautions for user:	Protect from wetness.

Air transport:
IATA/ICAO:

UN number:	UN1384
UN proper shipping name:	Sodium Dithionite (Sodium Hydrosulphite)
Transport hazard class(es):	4.2
Packing group:	II
Environmental hazards:	No, mark as dangerous for the environment is needed.
Special precautions for user:	Protect from wetness.

ADR Tunnel Code: D/E

UN Number or ID Number: See corresponding entries for “UN number or ID number” for the respective regulations in the tables above.

UN proper shipping name: See corresponding entries for “UN proper shipping name” for the respective regulations in the tables above.

Transport hazard class(es): See corresponding entries for “Transport hazard class(es)” for the respective regulations in the tables above.

Packing group: See corresponding entries for “Packing group” for the respective regulations in the tables above.

Environmental hazards: See corresponding entries for “Environmental hazards” for the respective regulations in the tables above.

[cont…]

Special precautions for user: See corresponding entries for “Special precautions for user” for the respective regulations in the tables above.

Maritime transport in bulk according to IMO instruments: Maritime transport in bulk is not intended.

Further information: Specific national features of transport regulations must be observed. They are to be found in the shipping documents.
This product is subject to the most recent edition of "The Carriage of Dangerous Goods and Use of Transportable Pressure Equipment Regulations" and their amendments (United Kingdom).

15. REGULATORY INFORMATION

Chemical Safety Assessment: Chemical Safety Assessment performed.

Note: The regulatory information given above only indicates the principal regulations specifically Applicable to the product described in the safety data sheet. The user's attention is drawn to the possible existence of additional provisions which complete these regulations. Refer to all applicable national, international and local regulations or provisions.

16. OTHER INFORMATION

Assessment of the hazard classes according to UN GHS criteria (most recent version):

Aquatic Acute 3
Skin Corr./Irrit. 3
Eye Dam./Irrit. 2A
Self-heat. 1
Acute Tox. 5 (oral)

Full text of the classifications, including the hazard classes and the hazard statements, if mentioned in section 2 or 3:

Self-heat: Self-heating substances and mixtures.
Acute Tox.: Acute toxicity.
Eye Dam./ Irrit.: Serious eye damage/ eye irritation.
H251: Self-heating: May catch fire.
H302: Harmful if swallowed.
H319: Causes serious eye irritation.
EUH031: Contact with acids liberates toxic gas.

Legal disclaimer: The information contained in this SDS does not constitute a risk assessment, and should not replace the user's own assessment of risks as required by other health and safety legislation. This advice is given by Nexchem Ltd who accept no legal liability for it except otherwise provided by law. The information contained herein is based on the present state of our knowledge and is intended to describe our products from the point of view of safety requirements. It should not therefore be construed as guaranteeing specific properties.