NEO RS1

SECTION 1: Identification of the substance/mixture and of the company/undertaking
1.1. Product identifier
Product name NEO RS1

1.2. Relevant identified uses of the substance or mixture and uses advised against
Product Use [SU3] Industrial uses: Uses of substances as such or in preparations at industrial sites; [SU19] Building and construction work; [PC0] Other; [PROC11] Non-industrial spraying; [ERC8b] Wide dispersive indoor use of reactive substances in open systems [ERC8e] Wide dispersive outdoor use of reactive substances in open systems;

Description Acidic Cleaning Solution.

1.3. Details of the supplier of the safety data sheet
Company Flowplant Group Ltd
Address Gemini House
Brunel Road
Churchfields Ind. Est.
Salisbury
Wiltshire. SP2 7PU.
United Kingdom

Web www.flowplant.com
Telephone 01722 325424
Fax 01722 411329
Email chemicals@flowplant.com

Email address of the competent person
chemicals@flowplant.com

1.4. Emergency telephone number
07889 745 930.

SECTION 2: Hazards identification
2.1. Classification of the substance or mixture

Classification (CLP): Acute. Tox, 1: H310
Acute. Tox, 3: H301; H331
Skin Corr. 1A: H314

Most important adverse effects:
Toxic / Corrosive

2.2. Label elements
Label elements under CLP (1272/2008):

Hazard statements: H310: Fatal in contact with skin
H301: Toxic if swallowed
H331: Toxic if inhaled
H314: Causes severe skin burns and eye damage

Signal words: Danger

Hazard pictograms: GHS06: Toxic
GHS05: Corrosion

P201: Obtain special instructions before use
P202: Do not handle until all safety precautions have been read and understood
P260: Do not breathe dust/ fume/ gas/ mist/ vapours/ spray.
P264: Wash hands thoroughly after handling.
P280: Wear protective gloves/ protective clothing/ eye protection/ face protection.
P284: Wear respiratory protection.
P301 + P303 + P305 + P310: IF SWALLOWED, IF ON SKIN (or hair), IF IN EYES: Immediately call a POISON CENTER or doctor/physician.
P301+330+331: IF SWALLOWED: Rinse mouth. Do NOT induce vomiting
P302 + P350: IF ON SKIN: Gently wash with plenty of soap and water.
P305+351+338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses if present and easy to do – continue rinsing
P403+233: Store in a well-ventilated place. Keep container tightly closed
P234: Keep only in original container.
P390: Absorb spillage to prevent material damage
P501: Dispose of contents/container to hazardous waste

2.3. Other hazards

PBT: This product is not identified as a PBT substance.

SECTION 3: Composition/information on ingredients

3.2. Mixtures 67/548/EEC / 1999/45/EC

Chemical Name	CAS No.	EC No.	REACH Registration Number	Conc. (%w/w)	Classification
Hydrochloric Acid	7647-01-0		012119484862-27-0000	1 – 10	Met. Corr. 1: H290; Skin Corr. 1B: H314; STOT SE 3: H335
Hydrofluoric Acid	7664-39-3	231-633-2	01-2119485924-24-XXXX	1 – 10	Acute. Tox, 1: H310; Acute. Tox, 2: H300; Acute. Tox, 2: H330; Skin Corr. 1A: H314
2-Butoxyethanol	111-76-2	203-905-0	01-2119475104-44XXXX	0.5 – 1	Acute Tox. 4: H332; Acute Tox. 4: H312; Acute Tox. 4: H302; Eye Irrit. 2: H319; Skin Irrit. 2: H315;
Alcohol Ethoxylate	68439-46-3		N/A POLYMER	1 – 5	Acute Tox. 4: H302; Eye Dam. 1: H318

SECTION 4: First aid measures

4.1. Description of first aid measures

General advice Consult a physician. Show this safety data sheet to the doctor in attendance. Hydrofluoric (HF) acid burns require immediate and specialized first aid and medical treatment. Symptoms may be delayed up to 24 hours depending on the concentration of HF. After decontamination with water, further damage can occur due to penetration/absorption of the fluoride ion. Treatment should be directed toward binding the fluoride ion as well as the effects of exposure. Skin exposures can be treated with a 2.5% calcium gluconate gel repeated until burning ceases. More serious skin exposures may require subcutaneous calcium gluconate except for digital areas unless the physician is experienced in this technique, due to the potential for tissue injury from increased pressure. Absorption can readily occur through the subungual areas and should be considered when undergoing decontamination. Prevention of absorption of the fluoride ion in cases of ingestion can be obtained by giving milk, chewable calcium carbonate tablets or Milk of Magnesia to conscious victims. Conditions such as hypocalcemia, hypomagnesemia and cardiac arrhythmias should be monitored for, since they can occur after exposure.

Inhalation Move the exposed person to fresh air. If not breathing, give artificial respiration.
Eye contact Rinse immediately with plenty of water for 15 minutes holding the eyelids open.
Skin contact Wash off immediately with plenty of soap and water. Remove contaminated clothing.
Ingestion DO NOT INDUCE VOMITING. Rinse mouth with water.

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

Inhalation Risk of producing lung oedema.
Eye contact: Causes severe burns to eyes. The eyes may water profusely. There may be severe pain. The vision may become blurred. There may be permanent damage.
Skin contact Painful burns (effects may not be immediate).
Ingestion: Corrosive to mucous membranes.

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

Inhalation Seek immediate medical attention. (show the label where possible).
Eye contact Seek immediate medical attention. (show the label where possible).
Skin contact Seek immediate medical attention. (show the label where possible).
Ingestion Seek immediate medical attention. (show the label where possible).

SECTION 5: Firefighting measures

5.1. Extinguishing media

Use extinguishing media appropriate to the surrounding fire conditions.

5.2. Special hazards arising from the substance or mixture

Burning produces irritating, toxic and obnoxious fumes.

5.3. Advice for firefighters

Wear self-contained breathing apparatus and protective clothing.

5.4. Further information Avoid using strong water jets.

SECTION 6: Accidental release measures

6.1. Personal precautions, protective equipment and emergency procedures

Avoid contact with the eyes and skin.
Wear suitable protective equipment.
Wear respiratory protection.
Avoid breathing vapours, mist or gas.
Ensure adequate ventilation.
Evacuate personnel to safe areas.
For personal protection see section 8.

6.2. Environmental precautions

Prevent further spillage if safe.
Do not allow product to enter drains or any water course.
Advise local authorities if large spills cannot be contained.

6.3. Methods and material for containment and cleaning up

Absorb with inert, absorbent material and dispose of as hazardous waste.
Transfer to suitable, labelled containers for disposal.

6.4. Reference to other sections

See section 8. EXPOSURE CONTROLS / PERSONAL PROTECTION for further information.
See section 13. DISPOSAL CONSIDERATIONS for further information.

SECTION 7: Handling and storage

7.1. Precautions for safe handling

Ensure adequate ventilation of the working area. Avoid contact with eyes and skin.
Adopt best Manual Handling considerations when handling, carrying and dispensing.

7.2. Conditions for safe storage, including any incompatibilities

Keep containers tightly closed. Keep in a cool, dry, well-ventilated area.
Store in correctly labelled containers.

7.3. Specific end use(s) See section 1.2. Relevant identified uses of the substance or mixture and uses advised against for further information.

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Components	CAS-No.	8 hour TWA	15 min. STEL	Basis
Hydrofluoric Acid	7664-39-3	1.5 mg/m^3	2.5 mg/m^3	UK EH40 WEL
Hydrochloric Acid	7647-01-0	2 mg/m^3	8 mg/m^3	UK EH40 WEL
Butyl Glycol	111-76-2	123 mg/m^3	246 mg/m^3	UK EH40 WEL

HYDROCHLORIC ACID:-

DNEL
Workers –
Inhalation; Long term local effects: 8 mg/m³
Workers - Inhalation; Short term local effects: 15 mg/m³
PNEC
- Fresh water; 36 mg/l
- Marine water; 36 mg/l
- Intermittent release; 45 mg/l
- STP; 36

Hydrofluoric Acid DNEL: Derived no effect level

Exposure pattern	Route	Value	Effects	Population
Acute effects (systemic and local)	Inhalation	2.5mg/m^3	Irritation (respiratory tract)	Workers
Long-term effects (systemic and local)	Inhalation	1.5mg/m^3	Irritation (respiratory tract)	Workers

Hydrofluoric Acid PNEC: Predicted No Effect Concentration

	Value
Fresh water	0.9 mg/l
Salt water	0.9 mg/l.
Sediments	0.766 mg/kg w/w

8.2. Exposure controls

Appropriate engineering controls

Avoid contact with skin, eyes and clothing.
Wash hands before breaks and immediately after handling the product

Respiratory protection Do not breathe dust/fume/gas/mist/vapour/spray.
Wear suitable respiratory equipment when necessary.

Hand protection Chemical resistant gloves.
Material: Chloroprene.
Minimum layer thickness: 0.6 mm
Break through time: > 480 min

Eye protection Tightly fitting safety goggles. Avoid contact with eyes.

Protective equipment The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.
Avoid contact with eyes and skin.
Immediately remove all soiled and contaminated clothing.
Wash all contaminated clothing before reuse.

SECTION 9: Physical and chemical properties

9.1. Information on basic physical and chemical properties

Appearance:	Viscous Liquid
Colour:	Red
Odour:	Acidic
Odour threshold:	Not determined.
pH-value at 20 °C:	< 1.0
Melting point:	Not determined.
Boiling point:	Not determined.
Flash point:	Not determined.
Flammability (solid, gaseous):	Not applicable.
Auto-ignition temperature:	Not determined.
Decomposition temperature:	Not determined.
Self-igniting:	Not determined.
Danger of explosion:	Product does not present an explosion hazard.
Explosion limits:	Not determined.
Vapour pressure:	Not determined.
Density at 20 °C:	1.200 g/cm³
Relative density	Not determined.
Vapour density	Not determined.
Particle characteristics	Not applicable
Evaporation rate	Not determined.
Solubility in / Miscibility with water:	Soluble.
Oxidizing properties	Not determined.
Partition coefficient (n-octanol/water):	Not determined.
Viscosity:	
Dynamic at 20 °C:	Not determined.
Kinematic:	Not determined.

9.2. Other information

Conductivity No data available

Surface tension No data available
Gas group No data available

SECTION 10: Stability and reactivity
10.1 Reactivity: Not determined.

10.2. Chemical stability Stable under normal conditions.

Thermal decomposition / conditions to be avoided:
No decomposition if used according to specifications.

10.3 Possibility of hazardous reactions:
Reacts with metal to form Hydrogen.

10.4 Conditions to avoid:
Heat. Flames. Sources of ignition. Direct sunlight.

10.5 Incompatible materials:
Strong bases. Strong oxidizing agents.

10.6 Hazardous decomposition products:
In combustion emits toxic fumes.

SECTION 11: Toxicological information
11.1. Information on toxicological effects

Acute toxicity: Toxic if swallowed
Fatal in contact with skin
Toxic if inhaled
Causes severe skin burns and eye damage

Symptoms / Routes of exposure:
Skin contact: Painful burns (effects may not be immediate).
Eye contact: Causes severe burns to eyes. The eyes may water profusely. There may be severe pain. The vision may become blurred. There may be permanent damage.
Ingestion: Corrosive to mucous membranes.
Inhalation: Risk of producing lung oedema.

Delayed / immediate effects:
Fluoride ion can reduce serum calcium levels possibly causing fatal hypocalcemia, Material can cause severe burns and blistering which may not be immediately painful or visible. The full extent of tissue damage may not exhibit itself for 12-24 hours after exposure., Material is extremely destructive to tissue of the mucous membranes and upper respiratory tract, eyes, and skin., necrosis of the skin

SECTION 12: Ecological information

12.1 Toxicity Not determined.

12.2 Persistence and degradability
Biodegradable

12.3 Bioaccumulative potential
Degraded. Will disperse as ions.

12.4 Mobility in soil Soluble, will disperse and degrade.

12.5 Results of PBT and vPvB assessment
PBT: Not applicable.
vPvB: Not applicable.

12.6 Other adverse effects:
Not expected to be persistent in the environment

SECTION 13: Disposal considerations
General information
Do not allow product to enter drains.
Transfer to a suitable container and arrange for collection by specialised disposal company.

Uncleaned packaging:
Recommendation: Arrange for collection by specialised disposal company.
Disposal must be made according to official regulations.

14. TRANSPORT INFORMATION

14.1. UN number
UN number: UN 2922

14.2. UN proper shipping name
Shipping name: CORROSIVE LIQUID, TOXIC, N.O.S. (Hydrofluoric Acid, Hydrochloric Acid)

14.3. Transport hazard class(es)

Transport class: 8 (6.1)

14.4. Packing group
Packing group: II

14.5. Environmental hazards
Environmentally hazardous: No
Marine pollutant: No

14.6. Special precautions for user
Tunnel code: E
Transport category: 2

SECTION 15: Regulatory information

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

Regulations **EU legislation Safety Data Sheet prepared in accordance with REACH Commission Regulation (EU) No 2015/830 (which amends Regulation (EC) No 453/2010 & 1907/2006). The product is as classified under GHS/CLP- Regulation (EC) No 1272/2008 classification, labelling & packaging of substances & mixtures. Ingredients are listed with classification under GHS/CLP - Regulation (EC) No 1272/2008 classification, labelling & packaging of substances & mixtures. 15.2.**

15.2. Chemical safety assessment

No data is available on this product.

SECTION 16: Other information

Other information

Revision This document differs from the previous version in the following areas:
SECTION 3: Composition/information on ingredients
SECTION 8.1 Control parameters
SECTION 9: Physical and chemical properties
SECTION 14: Transport information
SECTION 15: Regulatory information

Text of Hazard Statements

Acute Tox. 2: H300	Fatal if swallowed.
Acute Tox. 1: H310	Fatal in contact with skin.
Skin Corr. 1A: H314	Causes severe skin burns and eye damage.
Acute Tox. 2: H330	Fatal if inhaled.
Skin Corr. 1B: H314	Causes severe skin burns and eye damage.
STOT SE 3: H335	May cause respiratory irritation.
Acute Tox. 4: H302	Harmful if swallowed.
Acute Tox. 4: H312	Harmful in contact with skin.
Skin Irrit. 2: H315	Causes skin irritation.
Eye Irrit. 2: H319	Causes serious eye irritation.
Acute Tox. 4: H332	Harmful if inhaled.

Further information:

The information supplied in this Safety Data Sheet is designed only as guidance for the safe use, storage and handling of the product. This information is correct to the best of our knowledge and belief at the date of publication however no guarantee is made to its accuracy. This information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any other process.