Safety Data Sheet
acc. to OSHA HCS

Printing date 05/07/2016 Reviewed on 05/07/2016

1 Identification

· **Product identifier**

· **Trade name:** **JT6810-APT**

· **Article number:** 2157

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

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

· **Manufacturer/Supplier:**

Jaytech Inc
1290 Osborne Rd NE
Suite E
Fridley, MN 55432
763-795-9331

· **Information department:** Product safety department.

· **Emergency telephone number:** 1-866-489-9831 (not 24 hours)

2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS03 Flame over circle

Ox. Sol. 3 H272 May intensify fire; oxidizer.

GHS06 Skull and crossbones

Acute Tox. 3 H301 Toxic if swallowed.

GHS08 Health hazard

Repr. 2 H361 Suspected of damaging fertility or the unborn child.

GHS05 Corrosion

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

Eye Dam. 1 H318 Causes serious eye damage.

· **Label elements**

· **GHS label elements**

The product is classified and labeled according to the Globally Harmonized System (GHS).

· **Hazard pictograms** GHS03, GHS05, GHS06, GHS08

· **Signal word** Danger

· **Hazard-determining components of labeling:**

Sodium nitrite
Sodium hydroxide
Cyclohexylamine
2-diethylaminoethanol

· **Hazard statements**

May intensify fire; oxidizer.
Toxic if swallowed.
Causes severe skin burns and eye damage.
Suspected of damaging fertility or the unborn child.

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· **Precautionary statements**
Take any precaution to avoid mixing with combustibles.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of water.
· **Classification system:**
· **NFPA ratings (scale 0 - 4)**

Health = 3
Fire = 3
Reactivity = 0

The substance possesses oxidizing properties.
· **HMIS-ratings (scale 0 - 4)**

Health = *4
Fire = 3
Reactivity = 0

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Mixture of the substances listed below with nonhazardous additions.

· **Dangerous components:**		
7632-00-0	Sodium nitrite	50-100%
1310-73-2	Sodium hydroxide	2.5-10%
108-91-8	Cyclohexylamine	≤ 2.5%
100-37-8	2-diethylaminoethanol	≤ 2.5%

4 First-aid measures

· **Description of first aid measures**
· **General information:**
Immediately remove any clothing soiled by the product.
In case of irregular breathing or respiratory arrest provide artificial respiration.
· **After inhalation:** Supply fresh air; consult doctor in case of complaints.
· **After skin contact:**
DO NOT DELAY!
Immediately rinse with water.
If skin irritation continues, consult a doctor.
· **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!
Rinse out mouth and then drink plenty of water.

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Do not induce vomiting; immediately call for medical help.
If vomiting occurs spontaneously, keep head below hips to prevent aspiration.
· **Information for doctor:**
Risk of pulmonary edema. Symptoms can appear later.
Danger of methaemoglobin formation after ingestion.
Treatment: Treat according to symptoms (decontamination, vital functions), treat with toluonium chloride to reverse methaemoglobinanaemia.
· **Most important symptoms and effects, both acute and delayed** Cyanosis.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:** Water
· **For safety reasons unsuitable extinguishing agents:**
Foam
Carbon dioxide
ABC powder
Use only water!
· **Special hazards arising from the substance or mixture**
Strong oxidiser. Contact with combustible or flammable substances may cause fire.
Not combustible but enhances combustion of other substances.
Many reactions may cause fire or explosion.
Gives off irritating or toxic fumes (or gases) in a fire.
· **Advice for firefighters**
· **Protective equipment:**
Do not inhale explosion gases or combustion gases.
Wear self-contained respiratory protective device.
Wear fully protective suit.

6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Avoid formation of dust.
Ensure adequate ventilation
Wear protective equipment. Keep unprotected persons away.
· **Environmental precautions:** Do not allow to penetrate the ground/soil.
· **Methods and material for containment and cleaning up:**
Pick up mechanically.
Do not use combustible materials such as paper towels to clean up spills.
Send for recovery or disposal in suitable receptacles.
Ensure adequate ventilation.
· **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.

7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Avoid direct contact (skin/eye contact, ingestion and/or inhalation of fume/mist/dust) with the product.
Safety showers and eye wash facilities should be available at the work area.
Prevent formation of dust.

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The product must only be handled by authorised, trained and experienced professionals under strictly controlled conditions.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Prevent any seepage into the ground.
Do not store on combustible materials such as wooden floors or wooden pallets.
· **Information about storage in one common storage facility:** Store away from oxidizing agents.
· **Further information about storage conditions:**
Keep receptacle tightly sealed.
Protect from heat and direct sunlight.
Store in cool, dry conditions in well sealed receptacles.
· **Specific end use(s)** No further relevant information available.

8 Exposure controls/personal protection

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

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The following constituents are the only constituents of the product which have a PEL, TLV or other recommended exposure limit.
At this time, the other constituents have no known exposure limits.

1310-73-2 Sodium hydroxide	
PEL	Long-term value: 2 mg/m³
REL	Ceiling limit value: 2 mg/m³
TLV	Ceiling limit value: 2 mg/m³
108-91-8 Cyclohexylamine	
REL	Long-term value: 40 mg/m³, 10 ppm
TLV	Long-term value: 41 mg/m³, 10 ppm
100-37-8 2-diethylaminoethanol	
PEL	Long-term value: 50 mg/m³, 10 ppm Skin
REL	Long-term value: 50 mg/m³, 10 ppm Skin
TLV	Long-term value: 9.6 mg/m³, 2 ppm Skin

· **Additional Occupational Exposure Limit Values for possible hazards during processing:**	
1310-73-2 Sodium hydroxide	
PEL	Long-term value: 2 mg/m³
REL	Ceiling limit value: 2 mg/m³
TLV	Ceiling limit value: 2 mg/m³

· **Additional information:** The lists that were valid during the creation were used as basis.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Do not breath dust
Do not eat, drink, smoke or sniff while working.
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.

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Pregnant women should strictly avoid inhalation or skin contact.
A safe system of work must be formulated and followed to ensure that workers who may be pregnant or breastfeeding do not come into direct contact with the product.
Ensure that eyewash stations and safety showers are close to the workstation location.

· **Breathing equipment:**
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 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.

9 Physical and chemical properties

· **Information on basic physical and chemical properties**	
· **General Information**	
· **Appearance:**	
Form:	Solid
Color:	Whitish
· **Odor:**	Mild
· **Odor threshold:**	Not determined.
· **pH-value (40 g/l) at 20 °C (68 °F):**	11.4
· **Change in condition**	
Melting point/Melting range:	Undetermined.
Boiling point/Boiling range:	Undetermined.
· **Flash point:**	>93 °C (>199 °F)
· **Flammability (solid, gaseous):**	Not determined.
· **Ignition temperature:**	
Decomposition temperature:	Not determined.
· **Auto igniting:**	Product is not selfigniting.

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· **Danger of explosion:**	Product does not present an explosion hazard.
· **Explosion limits:**	
Lower:	Not determined.
Upper:	Not determined.
· **Vapor pressure:**	Not applicable.
· **Density at 20 °C (68 °F):**	1.9 g/cm³ (15.856 lbs/gal)
· **Relative density**	Not determined.
· **Vapor density**	Not applicable.
· **Evaporation rate**	Not applicable.
· **Solubility in / Miscibility with**	
Water:	Soluble.
· **Partition coefficient (n-octanol/water):**	Not determined.
· **Viscosity:**	
Dynamic:	Not applicable.
Kinematic:	Not applicable.
· **Other information**	No further relevant information available.

10 Stability and reactivity

· **Reactivity** No further relevant information available.
· **Chemical stability**
· **Thermal decomposition / conditions to be avoided:**
No decomposition if used and stored according to specifications.
· **Possibility of hazardous reactions**
May explode on heating excessively.
The product decomposes on contact with acids producing toxic fumes (nitrogen oxides).
The product is a strong oxidant and reacts with combustible and reducing materials causing fire and explosion hazard.
· **Conditions to avoid** No further relevant information available.
· **Incompatible materials:**
Combustible materials.
Strong oxidising agents.
Strong acids.
Reducing agents.
· **Hazardous decomposition products:**
Phosphorus compounds
Carbon monoxide and carbon dioxide
Nitrogen oxides (NOx)

11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**		
7632-00-0 Sodium nitrite		
Oral	LD50	180 mg/kg (rat)

· **Primary irritant effect:**
· **on the skin:** Strong caustic effect on skin and mucous membranes.
· **on the eye:**
Strong caustic effect.
Strong irritant with the danger of severe eye injury.

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· **Additional toxicological information:**
The product shows the following dangers according to internally approved calculation methods for preparations:
Toxic
Corrosive
Irritant
Swallowing will lead to a strong caustic effect on mouth and throat and to the danger of perforation of esophagus and stomach.
ROUTES OF EXPOSURE: The component substances can variously be absorbed into the body by inhalation, through the skin and by ingestion.

Absorption of significant amounts of sodium nitrite may cause nausea, headache, dizziness, weakness and shortness of breath. In severe cases methaemoglobinaemia and a lowering of blood pressure may occur and could prove fatal. Symptoms may include a greyish-blue discoloration of the skin and mucous membranes, rapid shallow breathing, lowered blood pressure and increased heart rate. Exposure may result in death. The effects may be delayed. Medical observation is indicated.

· **Carcinogenic categories**

· **IARC (International Agency for Research on Cancer)**
None of the ingredients is listed.

· **NTP (National Toxicology Program)**
None of the ingredients is listed.

· **OSHA-Ca (Occupational Safety & Health Administration)**
None of the ingredients is listed.

12 Ecological information

· **Toxicity**
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** The organic portion of the product is biodegradable.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** Product is not expected to bioaccumulate.
· **Mobility in soil** No further relevant information available.
· **Ecotoxical effects:**
· **Remark:** Very toxic for fish
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Must not reach bodies of water or drainage ditch undiluted or unneutralized.
Danger to drinking water if even small quantities leak into the ground.
Very toxic for aquatic organisms
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.
· **Other adverse effects** No further relevant information available.

13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**

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

Contact waste processors for recycling information.
Must not be disposed of together with household garbage. Do not allow product to reach sewage system.
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.

· **Uncleaned packagings:**
· **Recommendation:**
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.
Do not mix with other waste streams.
· **Recommended cleansing agent:** Water, if necessary with cleansing agents.

14 Transport information

· **UN-Number**
· **DOT, ADR, IMDG, IATA** UN3084

· **UN proper shipping name**
· **DOT** Corrosive solids, oxidizing, n.o.s. (Sodium hydroxide, Cyclohexylamine)
· **ADR** 3084 Corrosive solids, oxidizing, n.o.s. (Sodium hydroxide, Cyclohexylamine), ENVIRONMENTALLY HAZARDOUS
· **IMDG** CORROSIVE SOLID, OXIDIZING, N.O.S. (SODIUM HYDROXIDE, CYCLOHEXYLAMINE), MARINE POLLUTANT
· **IATA** CORROSIVE SOLID, OXIDIZING, N.O.S. (SODIUM HYDROXIDE, CYCLOHEXYLAMINE)

· **Transport hazard class(es)**

· **DOT**

· **Class** 8 Corrosive substances
· **Label** 8, 5.1

· **ADR**

· **Class** 8 Corrosive substances
· **Label** 8+5.1

· **IMDG**

· **Class** 8 Corrosive substances

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· **Label**	8/5.1
· **IATA**	

· **Class**	8 Corrosive substances
· **Label**	8 (5.1)
· **Packing group**	
· **DOT, ADR, IMDG, IATA**	II
· **Environmental hazards:**	Product contains environmentally hazardous substances: Sodium nitrite
· **Marine pollutant:**	Symbol (fish and tree)
· **Special marking (ADR):**	Symbol (fish and tree)
· **Special precautions for user**	Warning: Corrosive substances
· **Danger code (Kemler):**	85
· **EMS Number:**	F-A,S-Q
· **Segregation groups**	Alkalis
· **Stowage Category**	E
· **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code**	Not applicable.
· **Transport/Additional information:**	Not dangerous according to the above specifications.
· **ADR**	
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· **IMDG**	
· **Limited quantities (LQ)**	1 kg
· **Excepted quantities (EQ)**	Code: E2 Maximum net quantity per inner packaging: 30 g Maximum net quantity per outer packaging: 500 g
· **UN "Model Regulation":**	UN 3084 CORROSIVE SOLIDS, OXIDIZING, N.O.S. (SODIUM HYDROXIDE, CYCLOHEXYLAMINE), 8 (5.1), II, ENVIRONMENTALLY HAZARDOUS

15 Regulatory information

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

· **Section 355 (extremely hazardous substances):**

108-91-8	Cyclohexylamine

· **Section 313 (Specific toxic chemical listings):**

7632-00-0	Sodium nitrite

· **TSCA (Toxic Substances Control Act):**

All ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**

None of the ingredients is listed.

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· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients is listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients is listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients is listed.

· **Cancerogenity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients is listed.

· **TLV (Threshold Limit Value established by ACGIH)**

108-91-8	Cyclohexylamine	A4

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients is listed.

· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms** GHS03, GHS05, GHS06, GHS08
· **Signal word** Danger

· **Hazard-determining components of labeling:**
Sodium nitrite
Sodium hydroxide
Cyclohexylamine
2-diethylaminoethanol
· **Hazard statements**
May intensify fire; oxidizer.
Toxic if swallowed.
Causes severe skin burns and eye damage.
Suspected of damaging fertility or the unborn child.
· **Precautionary statements**
Take any precaution to avoid mixing with combustibles.
Wear protective gloves/protective clothing/eye protection/face protection.
Do not eat, drink or smoke when using this product.
Do not handle until all safety precautions have been read and understood.
If in eyes: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
IF ON SKIN: Wash with plenty of water.
· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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.

· **Date of preparation / last revision** 05/07/2016 / -
· **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
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
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)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent

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PBT: Persistent, Bioaccumulative and Toxic
vPvB: very Persistent and very Bioaccumulative
NIOSH: National Institute for Occupational Safety
OSHA: Occupational Safety & Health
TLV: Threshold Limit Value
PEL: Permissible Exposure Limit
REL: Recommended Exposure Limit
BEI: Biological Exposure Limit
Ox. Sol. 3: Oxidizing solids – Category 3
Acute Tox. 3: Acute toxicity – Category 3
Skin Corr. 1A: Skin corrosion/irritation – Category 1A
Eye Dam. 1: Serious eye damage/eye irritation – Category 1
Repr. 2: Reproductive toxicity – Category 2