# Cocaine Solution
## Novachem Pty Ltd

Chemwatch Hazard Alert Code: **4**

Version No: **3.4**
Safety Data Sheet according to WHS and ADG requirements

Issue Date: **30/09/2020**
Print Date: **30/09/2020**
S.GHS.AUS.EN

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

### Product Identifier

| | |
|---|---|
| **Product name** | Cocaine Solution |
| **Chemical Name** | cocaine |
| **Synonyms** | C-008 |
| **Proper shipping name** | ACETONITRILE |
| **Chemical formula** | C17-H21-N-O4 |
| **Other means of identification** | Not Available |
| **CAS number** | 50-36-2* |

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

| | |
|---|---|
| **Relevant identified uses** | Laboratory certified reference material |

### Details of the supplier of the safety data sheet

| | |
|---|---|
| **Registered company name** | **Novachem Pty Ltd** |
| **Address** | 25 Crissane Road, Heidelberg West Victoria 3081 Australia |
| **Telephone** | +61384151255 |
| **Fax** | +61386250088 |
| **Website** | www.novachem.com.au |
| **Email** | novachem@novachem.com.au |

### Emergency telephone number

| | |
|---|---|
| **Association / Organisation** | **Victorian Poisons Information Centre** |
| **Emergency telephone numbers** | 13 11 26 |
| **Other emergency telephone numbers** | Not Available |

## SECTION 2 Hazards identification

### Classification of the substance or mixture

| | |
|---|---|
| **Poisons Schedule** | S8 |
| **Classification [1]** | Eye Irritation Category 2A, Acute Toxicity (Dermal) Category 4, Flammable Liquid Category 2, Acute Toxicity (Inhalation) Category 4, Acute Toxicity (Oral) Category 4, Skin Sensitizer Category 1B |
| ***Legend:*** | *1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI* |

### Label elements

| | |
|---|---|
| **Hazard pictogram(s)** |  |
| **Signal word** | **Danger** |

### Hazard statement(s)

| | |
|---|---|
| **H319** | Causes serious eye irritation. |
| **AUH032** | Contact with acid liberates very toxic gas. |
| **H312** | Harmful in contact with skin. |
| **H225** | Highly flammable liquid and vapour. |
| **H332** | Harmful if inhaled. |

**Page 1 continued...**

| | |
|---|---|
| **H302** | Harmful if swallowed. |
| **H317** | May cause an allergic skin reaction. |

**Precautionary statement(s) Prevention**

| | |
|---|---|
| **P210** | Keep away from heat/sparks/open flames/hot surfaces. - No smoking. |
| **P233** | Keep container tightly closed. |
| **P271** | Use only outdoors or in a well-ventilated area. |
| **P280** | Wear protective gloves/protective clothing/eye protection/face protection. |

**Precautionary statement(s) Response**

| | |
|---|---|
| **P321** | Specific treatment (see advice on this label). |
| **P322** | Specific measures (see advice on this label). |
| **P363** | Wash contaminated clothing before reuse. |
| **P370+P378** | In case of fire: Use alcohol resistant foam or fine spray/water fog for extinction. |

**Precautionary statement(s) Storage**

| | |
|---|---|
| **P403+P235** | Store in a well-ventilated place. Keep cool. |

**Precautionary statement(s) Disposal**

| | |
|---|---|
| **P501** | Dispose of contents/container to authorised hazardous or special waste collection point in accordance with any local regulation. |

## SECTION 3 Composition / information on ingredients

**Substances**

| CAS No | %[weight] | Name |
|---|---|---|
| 75-05-8 | 99.9 | acetonitrile |
| 50-36-2 | 0.1 | cocaine |

**Mixtures**

See section above for composition of Substances

## SECTION 4 First aid measures

**Description of first aid measures**

| | |
|---|---|
| **Eye Contact** | If this product comes in contact with the eyes:<br>▸ Immediately hold eyelids apart and flush the eye continuously with running water.<br>▸ Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids.<br>▸ Continue flushing until advised to stop by the Poisons Information Centre or a doctor, or for at least 15 minutes.<br>▸ Transport to hospital or doctor without delay.<br>▸ Removal of contact lenses after an eye injury should only be undertaken by skilled personnel. |
| **Skin Contact** | If skin or hair contact occurs:<br>▸ Immediately flush body and clothes with large amounts of water, using safety shower if available.<br>▸ Quickly remove all contaminated clothing, including footwear.<br>▸ Wash skin and hair with running water. Continue flushing with water until advised to stop by the Poisons Information Centre.<br>▸ Transport to hospital, or doctor. |
| **Inhalation** | ▸ If fumes or combustion products are inhaled remove from contaminated area.<br>▸ Lay patient down. Keep warm and rested.<br>▸ Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures.<br>▸ Apply artificial respiration if not breathing, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.<br>▸ Transport to hospital, or doctor, without delay. |
| **Ingestion** | ▸ **IF SWALLOWED, REFER FOR MEDICAL ATTENTION, WHERE POSSIBLE, WITHOUT DELAY.**<br>▸ For advice, contact a Poisons Information Centre or a doctor.<br>▸ Urgent hospital treatment is likely to be needed.<br>▸ In the mean time, qualified first-aid personnel should treat the patient following observation and employing supportive measures as indicated by the patient's condition.<br>▸ If the services of a medical officer or medical doctor are readily available, the patient should be placed in his/her care and a copy of the SDS should be provided. Further action will be the responsibility of the medical specialist.<br>▸ If medical attention is not available on the worksite or surroundings send the patient to a hospital together with a copy of the SDS.<br><br>**Where medical attention is not immediately available or where the patient is more than 15 minutes from a hospital or unless instructed otherwise:**<br>▸ **INDUCE** vomiting with fingers down the back of the throat, **ONLY IF CONSCIOUS**. Lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration.<br>**NOTE:** Wear a protective glove when inducing vomiting by mechanical means. |

**Continued...**

**Indication of any immediate medical attention and special treatment needed**

for cocaine and its analogues:

- If an overdose of cocaine has been taken by mouth, empty the stomach by lavage and aspiration using a 0.02% (very pale pink) solution of potassium permanganate.
- Activated charcoal has been suggested to delay absorption.
- When systemic reaction to a local anaesthetic occurs, steps should be taken to maintain circulation and respiration and control convulsions.
- Airway should be established and oxygen given together with assisted ventilation if necessary. Circulation should be maintained with plasma infusion (or suitable electrolytes).
- Vasopressors such as ephedrine, metaraminol and methoxamine have been suggested in marked hypotension although their use is accompanied by the risk of CNS excitement. (Vasopressors should not be given to patients receiving oxytocic drugs).
- Convulsions may be controlled by the use of diazepam or short-acting barbiturates such as thiopentone sodium.
- Assisted ventilation may be required.

MARTINDALE: The Extra Pharmacopoeia, 27th Ed.

For selective serotonin reuptake inhibitors (SSRIs):

Serotonin toxicity is more pronounced following supra-therapeutic doses and overdoses, and they merge in a continuum with the toxic effects of overdose. The serotonergic toxicity of SSRIs increases with dose, but even in over-dose it is insufficient to cause fatalities from serotonin syndrome in healthy adults. The syndrome occurs in approximately 14 to 16 percent of persons who overdose on SSRIs.

It is usually only when drugs with different mechanisms of action are mixed together that elevations of central nervous system serotonin reach potentially fatal levels.

The symptoms are often described as a clinical triad of abnormalities:

- **Cognitive effects**: mental confusion, hypomania, hallucinations, agitation, headache, coma.
- **Autonomic effects**: shivering, sweating, fever, hypertension, tachycardia, nausea, diarrhea.
- **Somatic effects**: myoclonus/clonus (muscle twitching), hyperreflexia, tremor.

Symptom onset is usually rapid, often occurring within minutes after self-poisoning or a change in medication. Serotonin syndrome encompasses a wide range of clinical findings. Mild symptoms may only consist of tachycardia, shivering, diaphoresis (sweating), mydriasis (dilated pupils), myoclonus (intermittent tremor or twitching), as well as overactive or over-responsive reflexes. Moderate intoxication includes additional abnormalities such as hyperactive bowel sounds, hypertension and hyperthermia; a temperature as high as 40 C (104 F) is common in moderate intoxication. The overactive reflexes and clonus in moderate cases may be greater in the lower limbs than in the upper limbs. Mental status changes include hyper-vigilance and agitation. Severe symptoms include severe hypertension and tachycardia that may lead to shock. Severe cases often have agitated delirium as well as muscular rigidity and high muscular tension. Temperature may rise to above 41.1 C (106.0 F) in life-threatening cases. Other abnormalities include metabolic acidosis, rhabdomyolysis, seizures, renal failure, and disseminated intravascular coagulation, these effects usually arise as a consequence of hyperthermia.

SSRIs appear to be safer in overdose when compared with traditional antidepressants such as the tricyclic antidepressants. This relative safety is supported both by case series and studies of deaths per numbers of prescriptions. However, case reports of SSRI poisoning have indicated that severe toxicity can occur and deaths have been reported following massive single ingestions, although this is exceedingly uncommon when compared to the tricyclic antidepressants.

Because of the wide therapeutic index of the SSRIs, most patients will have mild or no symptoms following moderate overdoses. The most commonly reported severe effect following SSRI overdose is serotonin syndrome; serotonin toxicity is usually associated with very high overdoses or multiple drug ingestion. Other reported significant effects include coma, seizures, and cardiac toxicity.

Treatment for SSRI overdose is mainly based on symptomatic and supportive care. Medical care may be required for agitation, maintenance of the airways, and treatment for serotonin syndrome. ECG monitoring is usually indicated to detect any cardiac abnormalities.

Supportive care includes:

- the control of agitation,
- the administration of serotonin antagonists (cyproheptadine or methysergide),
- the control of autonomic instability, and the control of hyperthermia.

The intensity of therapy depends on the severity of symptoms.

If the symptoms are mild, treatment may only consist of:

- discontinuation of the offending medication or medications,
- offering supportive measures,
- giving benzodiazepines for myoclonus, and waiting for the symptoms to resolve.

Moderate cases should have:

- all thermal and cardiorespiratory abnormalities corrected and
- can benefit from serotonin antagonists such as cyproheptadine.

Critically ill patients should receive the above therapies as well as:

- sedation, neuromuscular paralysis, and
- intubation with artificial ventilation.

Upon initiation of therapy and the discontinuation of serotonergic drugs most cases of serotonin syndrome resolve within 24 hours.although delirium may persist for a number of days. Cases have reported muscle pain and weakness persisting for months although antidepressant withdrawal may contribute to ongoing features. Following appropriate medical management, serotonin syndrome is generally associated with a favorable prognosis.

Many SSRIs are also monoamine oxidase inhibitors (MAOIs):

Special care should be taken with any drug therapy in view of the many hazards of monoamine oxidase inhibitor interactions. In particular metaraminol and other sympathomimetic agents are not suitable for the treatment of hypotension, which should be managed with intravenous fluids and, in severe shock, intravenous hydrocortisone.

Metabolism of amide-type anaesthetics occurs in the liver and in some cases in the kidney. Because these undergo extensive and rapid hepatic metabolism, only about 1/3 of an oral dose reaches the systemic circulation.

For cyanide intoxication (and for certain nitriles which produce cyanide ion)

- Signs symptoms of acute cyanide poisoning reflect cellular hypoxia and are often non-specific.
- Cyanosis may be a late finding.
- *A bradycardic*, hypertensive and tachypneic patient suggests poisoning especially if CNS and cardiovascular depression subsequently occurs.
- Immediate attention should be directed towards assisted ventilation, administration of 100% oxygen, insertion of intravenous lines and institution of cardiac monitoring.
- Obtain an arterial blood gas immediately and correct any severe metabolic acidosis (pH below 7.15).
- Mildly symptomatic patients generally require supportive care alone. Nitrites should not be given indiscriminately - in all cases of moderate to severe poisoning, they should be given in conjunction with thiosulfate. As a temporizing measure supply amyl nitrite perles (0.2ml inhaled 30 seconds every minute) until intravenous lines for sodium nitrite are established. 10 ml of a 3% solution is administered over 4 minutes to produce 20% methaemoglobin in adults. Follow directly with 50 ml of 25% sodium thiosulfate, at the same rate, IV. If symptoms reappear or persist within 1/2-1 hour, repeat nitrite and thiosulfate at 50% of initial dose. As the mode of action involves the metabolic conversion of the thiosulfate to thiocyanate, renal failure may enhance thiocyanate toxicity.
- Methylene blue is not an antidote. [Ellenhorn and Barceloux: Medical Toxicology]

If amyl nitrite intervention is employed then Medical Treatment Kits should contain the following:

- One box containing one dozen amyl nitrite ampoules
- Two sterile ampoules of sodium nitrite solution (10 mL of a 3% solution in each)
- Two sterile ampoules of sodium thiosulfate solution (50 mL of a 25% solution in each)
- One 10 mL sterile syringe. One 50 mL sterile syringe. Two sterile intravenous needles. One tourniquet.
- One dozen gauze pads.
- Latex gloves
- A "Biohazard" bag for disposal of bloody/contaminated equipment.
- A set of cyanide instructions on first aid and medical treatment.

- Notes on the use of amyl nitrite:-

- AN is highly volatile and flammable - do not smoke or use around a source of ignition.
- If treating patient in a windy or draughty area provide some shelter or protection (shirt, wall, drum, cupped hand etc.) to prevent amyl nitrite vapour from being blown away. Keep ampoule upwind from the nose, the objective is to get amyl nitrite into the patients lungs.
- Rescuers should avoid AN inhalation to avoid becoming dizzy and losing competence.
- Lay the patient down. Since AN dilates blood vessels and lowers blood pressure, lying down will help keep patient conscious.
- **DO NOT** overuse - excessive use might put the patient into shock. Experience at DuPont plants has not shown any serious after-effects from treatment with amyl nitrite.

**Continued...**

**ADDITIONAL NOTES:**
- Major medical treatment procedures may vary e.g. US (FDA method as recommended by DuPont) uses amyl nitrite as a methaemoglobin generator, followed by treatment with sodium nitrite and then sodium thiosulfate.

**MODES OF ACTION:** Amyl nitrite (AN) reacts with haemoglobin (HB) to form about 5% methaemoglobin (MHB). Sodium nitrite (NaNO2) reacts with haemoglobin to form approximately 20-30% methaemoglobin. Methaemoglobin attracts cyanide ions (CN) from tissue and binds with them to become cyanmethaemoglobin (CNMHB). Sodium thiosulfate (Na2S2O3) converts cyanmethaemoglobin to thiocyanate (HSCN) which is excreted by the kidneys. i.e. AN + HB = MHB NaNO2 + HB = MHB CN + MHB = CNMHB Na2S2O3 + CNMHB + O2 = HSCN
- The administration of the antidote salts is intravenous in normal saline, Ringers lactate or other available IV fluid.
- European practice may use 4-dimethylaminophenol (DMAP) as a methaemoglobin generator. Also hydroxycobalamin (Vitamin B12a) is used. Hydroxycobalamin works by reacting with cyanide to form cyanocobalamin (Vitamin B12) which is excreted in the urine.
- European and Australian NOHSC (ASCC) propose dicobalt edetate (Kelocyanor) as antidote. This acts by chelating cyanide to form stable cobalticyanide, which is excreted in the urine. In all cases hyperbaric therapy may increase the efficiency of a cyanide antidote kit.

## SECTION 5 Firefighting measures

### Extinguishing media
- Foam.
- Dry chemical powder.
- BCF (where regulations permit).
- Carbon dioxide.

### Special hazards arising from the substrate or mixture

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| **Fire Incompatibility** | ‣ Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result |

### Advice for firefighters

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| **Fire Fighting** | ‣ Alert Fire Brigade and tell them location and nature of hazard.<br>‣ Wear breathing apparatus plus protective gloves in the event of a fire.<br>‣ Prevent, by any means available, spillage from entering drains or water courses.<br>‣ Use fire fighting procedures suitable for surrounding area. |
| **Fire/Explosion Hazard** | ‣ Liquid and vapour are highly flammable.<br>‣ Severe fire hazard when exposed to heat, flame and/or oxidisers.<br>‣ Vapour may travel a considerable distance to source of ignition.<br>‣ Heating may cause expansion or decomposition leading to violent rupture of containers.<br>Combustion products include:<br>carbon dioxide (CO2)<br>nitrogen oxides (NOx)<br>other pyrolysis products typical of burning organic material.<br>May emit poisonous fumes. |
| **HAZCHEM** | •2YE |

## SECTION 6 Accidental release measures

### Personal precautions, protective equipment and emergency procedures
See section 8

### Environmental precautions
See section 12

### Methods and material for containment and cleaning up

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|---|---|
| **Minor Spills** | Environmental hazard - contain spillage.<br>‣ Remove all ignition sources.<br>‣ Clean up all spills immediately.<br>‣ Avoid breathing vapours and contact with skin and eyes.<br>‣ Control personal contact with the substance, by using protective equipment. |
| **Major Spills** | Environmental hazard - contain spillage.<br>‣ **DO NOT** touch the spill material<br>For alkyl nitriles:<br>For residue:<br>‣ Add alkaline hypochlorite solution to spill to produce cyanate.<br>‣ Neutralise liquid, and absorb with sawdust.<br>‣ Collect solid residues and seal in drums for disposal.<br>‣ Wash spill area with large quantities of water.<br>‣ Clear area of personnel and move upwind.<br>‣ Alert Fire Brigade and tell them location and nature of hazard.<br>‣ May be violently or explosively reactive.<br>‣ Wear full body protective clothing with breathing apparatus. |

Personal Protective Equipment advice is contained in Section 8 of the SDS.

## SECTION 7 Handling and storage

### Precautions for safe handling

**Continued...**

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|---|---|
| **Safe handling** | NOTE : Do NOT pipette by mouth. Only trained personnel should be allowed to handle or use this product.<br>▸ Avoid all personal contact, including inhalation.<br>▸ Wear protective clothing when risk of exposure occurs.<br>▸ Use in a well-ventilated area.<br>▸ Prevent concentration in hollows and sumps.<br>▸ **DO NOT** allow clothing wet with material to stay in contact with skin |
| **Other information** | **NOTE**: Special security requirements may be mandated under Federal/State Regulation(s).<br>▸ Store in original containers.<br>▸ Store in vault fitted with warning devices or detectors recommended by various Federal/State authorities.<br>▸ Store in vault used only for the purpose of storage of drugs of addiction. |

### Conditions for safe storage, including any incompatibilities

| | |
|---|---|
| **Suitable container** | ▸ Packaging as recommended by manufacturer.<br>▸ Check that containers are clearly labelled.<br>▸ Tamper-proof containers.<br>▸ Polyethylene or polypropylene containers.<br>▸ Glass container is suitable for laboratory quantities<br>For low viscosity materials<br>▸ Drums and jerricans must be of the non-removable head type.<br>▸ Where a can is to be used as an inner package, the can must have a screwed enclosure.<br>For materials with a viscosity of at least 2680 cSt. (23 deg. C) and solids (between 15 C deg. and 40 deg C.):<br>▸ Removable head packaging;<br>▸ Cans with friction closures and<br>▸ low pressure tubes and cartridges<br>may be used. |
| **Storage incompatibility** | Acetonitrile<br>▸ forms cyanide gas on contact with steam<br>▸ reacts violently with oxidisers such as chlorine, bromine, fluorine; with chlorosulfonic acid, oleum or sulfuric acid<br>▸ is incompatible with water (especially if acid or alkaline), acids, caustics, nitrating agents, indium, nitrogen tetroxide , sulfur trioxide, iron(III) salts of perchlorate, nitrogen fluoride compounds<br>▸ attacks most rubber and plastics<br>▸ may accumulate electrical charges, causing ignition of vapours<br>▸ Contact with acids produces toxic fumes<br>▸ Nitriles may polymerise in the presence of metals and some metal compounds.<br>▸ They are incompatible with acids; mixing nitriles with strong oxidising acids can lead to extremely violent reactions.<br>▸ Nitriles are generally incompatible with other oxidising agents such as peroxides and epoxides.<br>▸ The combination of bases and nitriles can produce hydrogen cyanide.<br>▸ The covalent cyano group is endothermic and many organic nitriles are reactive under certain conditions; N-cyano derivatives are reactive or unstable.<br>▸ The majority of endothermic compounds are thermodynamically unstable and may decompose explosively under various circumstances of initiation.<br>▸ Many but not all endothermic compounds have been involved in decompositions, reactions and explosions and, in general, compounds with significantly positive values of standard heats of formation, may be considered suspect on stability grounds.<br>BRETHERICK L.: Handbook of Reactive Chemical Hazards<br>**WARNING**:<br>May decompose violently or explosively on contact with other substances.<br>▸ This substance, or one of its components, is one of the relatively few compounds which are described as "endothermic" i.e. heat is absorbed into the compound, rather than released from it, during its formation.<br>▸ The majority of endothermic compounds are thermodynamically unstable and may decompose explosively under various circumstances of initiation.<br>▸ Many but not all endothermic compounds have been involved in decompositions, reactions and explosions and, in general, compounds with significantly positive values of standard heats of formation, may be considered suspect on stability grounds.<br>▸ Avoid reaction with oxidising agents |

## SECTION 8 Exposure controls / personal protection

### Control parameters

**Occupational Exposure Limits (OEL)**

**INGREDIENT DATA**

| Source | Ingredient | Material name | TWA | STEL | Peak | Notes |
|---|---|---|---|---|---|---|
| Australia Exposure Standards | acetonitrile | Acetonitrile | 40 ppm / 67 mg/m3 | 101 mg/m3 / 60 ppm | Not Available | Not Available |

**Emergency Limits**

| Ingredient | Material name | TEEL-1 | TEEL-2 | TEEL-3 |
|---|---|---|---|---|
| acetonitrile | Acetonitrile | Not Available | Not Available | Not Available |

| Ingredient | Original IDLH | Revised IDLH |
|---|---|---|
| acetonitrile | 500 ppm | 137 ppm |
| cocaine | Not Available | Not Available |

**Occupational Exposure Banding**

| Ingredient | Occupational Exposure Band Rating | Occupational Exposure Band Limit |
|---|---|---|
| cocaine | E | ≤ 0.01 mg/m³ |
| ***Notes:*** | *Occupational exposure banding is a process of assigning chemicals into specific categories or bands based on a chemical's potency and the adverse health outcomes associated with exposure. The output of this process is an occupational exposure band (OEB), which corresponds to a range of exposure concentrations that are expected to protect worker health.* | |

**Continued...**

## Exposure controls

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|---|---|
| **Appropriate engineering controls** | Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection.<br>The basic types of engineering controls are:<br>Process controls which involve changing the way a job activity or process is done to reduce the risk.<br>Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. |
| **Personal protection** |  |
| **Eye and face protection** | ▸ Safety glasses with side shields.<br>▸ Chemical goggles.<br>▸ Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. |
| **Skin protection** | See Hand protection below |
| **Hands/feet protection** | ▸ Wear chemical protective gloves, e.g. PVC.<br>▸ Wear safety footwear or safety gumboots, e.g. Rubber<br>**NOTE:**<br>▸ The material may produce skin sensitisation in predisposed individuals. Care must be taken, when removing gloves and other protective equipment, to avoid all possible skin contact.<br>▸ Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.<br>The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical 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.<br>The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.<br>Personal hygiene is a key element of effective hand care.<br>for acetonitrile:<br>Butyl rubber, PVAL, Teflon, Saranex, Silvershield, Viton/ chlorobutyl are all highly resistant to permeation |
| **Body protection** | See Other protection below |
| **Other protection** | ▸ Overalls.<br>▸ Eyewash unit.<br>▸ Barrier cream.<br>▸ Skin cleansing cream. |

### Recommended material(s)

**GLOVE SELECTION INDEX**

Glove selection is based on a modified presentation of the:
***"Forsberg Clothing Performance Index".***
The effect(s) of the following substance(s) are taken into account in the ***computer-generated*** selection:
Cocaine Solution

| Material | CPI |
|---|---|
| BUTYL | A |
| BUTYL/NEOPRENE | A |
| CPE | A |
| PE/EVAL/PE | A |
| PVA | A |
| SARANEX-23 | A |
| NEOPRENE | B |
| TEFLON | B |
| NATURAL RUBBER | C |
| NATURAL+NEOPRENE | C |
| NITRILE | C |
| VITON/NEOPRENE | C |

* CPI - Chemwatch Performance Index
A: Best Selection
B: Satisfactory; may degrade after 4 hours continuous immersion
C: Poor to Dangerous Choice for other than short term immersion
**NOTE**: As a series of factors will influence the actual performance of the glove, a final selection must be based on detailed observation. -
* Where the glove is to be used on a short term, casual or infrequent basis, factors such as "feel" or convenience (e.g. disposability), may dictate a choice of gloves which might otherwise be unsuitable following long-term or frequent use. A qualified practitioner should be consulted.

### Respiratory protection

**Type A Filter of sufficient capacity. (AS/NZS 1716 & 1715, EN 143:2000 & 149:2001, ANSI Z88 or national equivalent)**

**Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.**

| Required minimum protection factor | Maximum gas/vapour concentration present in air p.p.m. (by volume) | Half-face Respirator | Full-Face Respirator |
|---|---|---|---|
| up to 10 | 1000 | A-AUS / Class1 | - |
| up to 50 | 1000 | - | A-AUS / Class 1 |
| up to 50 | 5000 | Airline * | - |
| up to 100 | 5000 | - | A-2 |
| up to 100 | 10000 | - | A-3 |
| 100+ | | | Airline** |

*** - Continuous Flow ** - Continuous-flow or positive pressure demand**
**A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)**

- **Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.**
- **The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.**
- **Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used**

## SECTION 9 Physical and chemical properties

**Continued...**

### Information on basic physical and chemical properties

| | |
|---|---|
| **Appearance** | Not Available |

| | | | |
|---|---|---|---|
| **Physical state** | Liquid | **Relative density (Water = 1)** | 0.8 |
| **Odour** | Not Available | **Partition coefficient n-octanol / water** | Not Available |
| **Odour threshold** | Not Available | **Auto-ignition temperature (°C)** | 524.0 |
| **pH (as supplied)** | Not Applicable | **Decomposition temperature** | Not Available |
| **Melting point / freezing point (°C)** | -45 | **Viscosity (cSt)** | Not Available |
| **Initial boiling point and boiling range (°C)** | 81.1 | **Molecular weight (g/mol)** | 41.05 Pure |
| **Flash point (°C)** | 5.5 (OC) | **Taste** | Not Available |
| **Evaporation rate** | 5.79 BuAc=1 BuAC = 1 | **Explosive properties** | Not Available |
| **Flammability** | HIGHLY FLAMMABLE. | **Oxidising properties** | Not Available |
| **Upper Explosive Limit (%)** | 16.0 | **Surface Tension (dyn/cm or mN/m)** | Not Available |
| **Lower Explosive Limit (%)** | 4.4 | **Volatile Component (%vol)** | 100 |
| **Vapour pressure (kPa)** | 13.3 @ 27 deg.C | **Gas group** | Not Available |
| **Solubility in water** | Miscible | **pH as a solution (1%)** | Not Available |
| **Vapour density (Air = 1)** | 1.4 | **VOC g/L** | 792.8 |

## SECTION 10 Stability and reactivity

| | |
|---|---|
| **Reactivity** | See section 7 |
| **Chemical stability** | ▸ Presence of elevated temperatures.<br>▸ Unstable in the presence of incompatible materials.<br>▸ Product is considered stable.<br>▸ Hazardous polymerisation will not occur. |
| **Possibility of hazardous reactions** | See section 7 |
| **Conditions to avoid** | See section 7 |
| **Incompatible materials** | See section 7 |
| **Hazardous decomposition products** | See section 5 |

## SECTION 11 Toxicological information

### Information on toxicological effects

| | |
|---|---|
| **Inhaled** | There is strong evidence to suggest that this material can cause, if inhaled once, very serious, irreversible damage of organs.<br>The material is not thought to produce either adverse health effects or irritation of the respiratory tract following inhalation (as classified by EC Directives using animal models). Nevertheless, adverse systemic effects have been produced following exposure of animals by at least one other route and good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.<br>Inhalation of vapours or aerosols (mists, fumes), generated by the material during the course of normal handling, may produce toxic effects.<br>The smell of acetonitrile does not give enough warning of exposure. The gas is highly toxic, and inhaling it can cause loss of consciousness. |
| **Ingestion** | There is strong evidence to suggest that this material can cause, if swallowed once, very serious, irreversible damage of organs.<br>Nitrile poisoning exhibits similar symptoms to poisoning due to hydrogen cyanide. The substances irritate the eyes and skin, and are absorbed quickly and completely through the skin.<br>A single dose of 1.2 grams cocaine may cause death, but some persons have died suddenly after doses of only 20mg. Excessive concentrations may produce lasting local damage as well.<br>A serotonin-norepinephrine-dopamine reuptake inhibitor (SNDRI), or triple reuptake inhibitor (TRI), is a drug/ligand that simultaneously acts as a reuptake inhibitor for the monoamine neurotransmitters, serotonin (5-HT), norepinephrine (noradrenaline, NA) and dopamine (DA), by blocking the action of the serotonin transporter (SERT), norepinephrine transporter (NET), and dopamine transporter (DAT), respectively. This results in an accumulation of serotonin, norepinephrine and dopamine in the junction between nerves.<br>Serotonin accumulation may lead to severe reactions known as serotonin syndrome - this may be life-threatening. Symptom onset is usually rapid, often occurring within minutes.<br>Treatment with selective serotonin reuptake inhibitors (SSRIs) can cause serotonin syndrome, a serious condition affecting the brain, muscles and digestive system. Signs and symptoms of serotonin syndrome include restlessness, fast heart rate, rapid changes in blood pressure, diarrhoea, nausea and vomiting, hallucinations, fever, coma, loss of co-ordination and overactive reflexes.<br>General side effects usually occur in the first month of treatment while the body adapts to the drug (with the exception of sexual side effects, which occur later). The efficacy of SSRIs does not usually peak until 6-8 weeks after commencement of treatment.<br>**Severely toxic effects** may result from the accidental ingestion of the material; animal experiments indicate that ingestion of less than 5 gram may be fatal or may produce serious damage to the health of the individual.<br>Cyanide poisoning can cause increased saliva output, nausea without vomiting, anxiety, confusion, vertigo, dizziness, stiffness of the lower jaw, convulsions, spasm, paralysis, coma and irregular heartbeat, and stimulation of breathing followed by failure. Often the skin becomes cyanosed (blue-grey), and this is often delayed. |

**Continued...**

| | |
|---|---|
| **Skin Contact** | Skin contact with the material may produce toxic effects; systemic effects may result following absorption.<br>There is strong evidence to suggest that this material, on a single contact with skin, can cause very serious, irreversible damage of organs.<br>The material is not thought to be a skin irritant (as classified by EC Directives using animal models). Temporary discomfort, however, may result from prolonged dermal exposures.<br>This material is a photosensitiser. Certain individuals working with this substance may show allergic reaction of the skin under sunlight.<br>Open cuts, abraded or irritated skin should not be exposed to this material<br>Entry into the blood-stream, through, for example, cuts, abrasions or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. |
| **Eye** | There is evidence that material may produce eye irritation in some persons and produce eye damage 24 hours or more after instillation. Severe inflammation may be expected with pain. |
| **Chronic** | Repeated or long-term occupational exposure is likely to produce cumulative health effects involving organs or biochemical systems.<br>Strong evidence exists that this substance may cause irreversible mutations (though not lethal) even following a single exposure.<br>Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.<br>Ample evidence from experiments exists that there is a suspicion this material directly reduces fertility.<br>Cocaine dependence may lead to psychotic states and hallucinations, digestive disorders, nausea, loss of appetite, gross loss of weight, formication (a sensation of ants crawling over the skin), impotence, sleeplessness, tremors and convulsions.<br>Chronic exposure to cyanides and certain nitriles may result in interference to iodine uptake by thyroid gland and its consequent enlargement. This occurs following metabolic conversion of the cyanide moiety to thiocyanate. |

| | TOXICITY | IRRITATION |
|---|---|---|
| **Cocaine Solution** | 7.35 mg/kg[2] | Not Available |
| | Oral (mouse) LD50: 99 mg/kg[2] | |
| **acetonitrile** | **TOXICITY** | **IRRITATION** |
| | =300 mg/kg[2] | Eye (rabbit):20 mg (open)-SEVERE |
| | 160 mg/kg[2] | Skin (rabbit):500 mg (open)-mild |
| | 1680 mg/kg[2] | |
| | 175-521 mg/kg[2] | |
| | 250 mg/kg[2] | |
| | 3890-5620 mg/kg[2] | |
| | 500 mg/kg[2] | |
| | 570 mg/kg[2] | |
| | 600-700 mg/kg[2] | |
| | 64 mg/kg[2] | |
| | 850-7960 mg/kg[2] | |
| | Inhalation (rabbit) LC50: 2824.773252 mg/l/4h[2] | |
| | Inhalation (rat) LC50: 7551 mg/l[2] | |
| | Oral (mouse) LD50: 269 mg/kg[2] | |
| | Oral (rabbit) LD50: 50 mg/kg[2] | |
| | Oral (rat) LD50: 1327-6762 mg/kg[2] | |
| **cocaine** | **TOXICITY** | **IRRITATION** |
| | 7.35 mg/kg[2] | Eye (rabbit): 16% - mild |
| | Oral (mouse) LD50: 99 mg/kg[2] | |
| ***Legend:*** | *1. Value obtained from Europe ECHA Registered Substances - Acute toxicity 2.* Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances* | |

| | |
|---|---|
| **Cocaine Solution** | Laboratory (in vitro) and animal studies show, exposure to the material may result in a possible risk of irreversible effects, with the possibility of producing mutation. |
| **ACETONITRILE** | The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>The material may cause skin irritation after prolonged or repeated exposure and may produce on contact skin redness, swelling, the production of vesicles, scaling and thickening of the skin. |
| **COCAINE** | The material may be irritating to the eye, with prolonged contact causing inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.<br>Reproductive effector in mice. |
| **Cocaine Solution & COCAINE** | The following information refers to contact allergens as a group and may not be specific to this product.<br>Contact allergies quickly manifest themselves as contact eczema, more rarely as urticaria or Quincke's oedema. The pathogenesis of contact eczema involves a cell-mediated (T lymphocytes) immune reaction of the delayed type. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important.<br>Neonates exposed to dual reuptake inhibitors of serotonin and norepinephrine, or selective serotonin reuptake inhibitors late in the third trimester have developed complications that can arise immediately upon delivery and require prolonged hospitalisation, respiratory support, and tube feeding. Such complications can arise immediately upon delivery. Monitor neonates for reported clinical findings such as respiratory distress, cyanosis, apnea, seizures, temperature instability, feeding difficulty, vomiting, hypoglycemia, hypotonia, hypertonia, hyperreflexia, tremor, jitteriness, irritability, and constant crying. These features are consistent with either a direct toxic effect of these classes of drugs or, possibly, a |

**Continued...**

| | |
|---|---|
| | drug discontinuation syndrome. |
| **Cocaine Solution & ACETONITRILE** | Absorption of acetonitrile occurs after oral, skin, or inhalation exposure. The liquid or vapour is irritating to the skin, eyes, and airways. At high enough doses, death can occur quickly from respiratory failure. Lower doses cause typical symptoms of cyanide poisoning such as salivation, nausea, vomiting, anxiety, confusion, rapid and difficult breathing, rapid pulse, unconsciousness, and convulsions. |

| | | | |
|---|---|---|---|
| **Acute Toxicity** | ✔ | **Carcinogenicity** | ✘ |
| **Skin Irritation/Corrosion** | ✘ | **Reproductivity** | ✘ |
| **Serious Eye Damage/Irritation** | ✔ | **STOT - Single Exposure** | ✘ |
| **Respiratory or Skin sensitisation** | ✔ | **STOT - Repeated Exposure** | ✘ |
| **Mutagenicity** | ✘ | **Aspiration Hazard** | ✘ |

***Legend:*** ✘ *– Data either not available or does not fill the criteria for classification*
✔ *– Data available to make classification*

## SECTION 12 Ecological information

### Toxicity

**Cocaine Solution**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

**acetonitrile**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| LC50 | 96 | Fish | 1-640mg/L | 2 |
| EC50 | 48 | Crustacea | >1-mg/L | 2 |
| EC50 | 72 | Algae or other aquatic plants | >1-mg/L | 2 |
| NOEC | 72 | Algae or other aquatic plants | >1-mg/L | 2 |

**cocaine**

| Endpoint | Test Duration (hr) | Species | Value | Source |
|---|---|---|---|---|
| Not Available | Not Available | Not Available | Not Available | Not Available |

***Legend:*** *Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 3. EPIWIN Suite V3.12 (QSAR) - Aquatic Toxicity Data (Estimated) 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data*

On the basis of available evidence concerning either toxicity, persistence, potential to accumulate and or observed environmental fate and behaviour, the material may present a danger, immediate or long-term and /or delayed, to the structure and/ or functioning of natural ecosystems.
Very toxic to aquatic organisms.
Do NOT allow product to come in contact with surface waters or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment wash-waters.
Wastes resulting from use of the product must be disposed of on site or at approved waste sites.
For Selective Serotonin Reuptake Inhibitors (SSRIs): Selective serotonin reuptake inhibitors (SSRIs) are a major class of widely prescribed antidepressants and obsessive-compulsive regulators that includes Prozac, Zoloft, Luvox, and Paxil. Serotonin is found in both vertebrate and invertebrate nervous systems. Additionally, serotonin is involved in a wide array of physiologic regulatory roles in molluscs, among most other creatures.
Ecotoxicity: The function of serotonin in a wide array of aquatic creatures could prove highly significant in any discussion of the importance of low levels of pharmaceuticals in the environment.
Soil Guidelines: Dutch Criteria:
free cyanide: 1 mg/kg (target)
20 mg/kg (intervention)
complex cyanide (pH 5): 5 mg/kg (target)
50 mg/kg (intervention)
Air Quality Standards: no safe guidelines recommended due to carcinogenic properties.
Abiotic Effects: Acetonitrile is a volatile organic compound (VOC) substance, thus it is a contributor to the formation of photochemical smog in the presence of other VOCs.
Transport: Acetonitrile is primarily removed by volatilization and leaching into groundwater. It has low adsorption potential to soils. Air - Acetonitrile may persist in the troposphere and can be transported over long distances.
**DO NOT** discharge into sewer or waterways.

### Persistence and degradability

| Ingredient | Persistence: Water/Soil | Persistence: Air |
|---|---|---|
| acetonitrile | HIGH (Half-life = 360 days) | HIGH (Half-life = 541.29 days) |
| cocaine | HIGH | HIGH |

### Bioaccumulative potential

| Ingredient | Bioaccumulation |
|---|---|
| acetonitrile | LOW (BCF = 0.4) |
| cocaine | LOW (LogKOW = 2.3) |

### Mobility in soil

| Ingredient | Mobility |
|---|---|
| acetonitrile | LOW (KOC = 4.5) |
| cocaine | LOW (KOC = 1889) |

**Continued...**

## SECTION 13 Disposal considerations

### Waste treatment methods

| | |
|---|---|
| **Product / Packaging disposal** | ▸ Containers may still present a chemical hazard/ danger when empty.<br>▸ Return to supplier for reuse/ recycling if possible.<br>Otherwise:<br>▸ If container can not be cleaned sufficiently well to ensure that residuals do not remain or if the container cannot be used to store the same product, then puncture containers, to prevent re-use, and bury at an authorised landfill.<br>▸ Where possible retain label warnings and SDS and observe all notices pertaining to the product.<br>Valuable substance, hold all residues for recovery. Disposal of the material must be carried out in accordance with the requirements of the relevant Federal/State Act(s) or Code(s) regulating the disposal of Drugs of Addiction.<br>▸ Consult manufacturer/supplier for recycling options.<br>▸ Decontaminate empty containers with water; incinerate plastic bags.<br>Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to laws operating in their area. In some areas, certain wastes must be tracked.<br>A Hierarchy of Controls seems to be common - the user should investigate:<br>▸ Reduction<br>▸ Reuse<br>▸ Recycling<br>▸ Disposal (if all else fails)<br>This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.<br>▸ **DO NOT** allow wash water from cleaning or process equipment to enter drains.<br>▸ It may be necessary to collect all wash water for treatment before disposal.<br>▸ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.<br>▸ Where in doubt contact the responsible authority. |

## SECTION 14 Transport information

### Labels Required

| | |
|---|---|
| |  |
| **Marine Pollutant** | NO |
| **HAZCHEM** | •2YE |

### Land transport (ADG)

| | |
|---|---|
| **UN number** | 1648 |
| **UN proper shipping name** | ACETONITRILE |
| **Transport hazard class(es)** | Class: 3<br>Subrisk: Not Applicable |
| **Packing group** | II |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: Not Applicable<br>Limited quantity: 1 L |

### Air transport (ICAO-IATA / DGR)

| | |
|---|---|
| **UN number** | 1648 |
| **UN proper shipping name** | Acetonitrile |
| **Transport hazard class(es)** | ICAO/IATA Class: 3<br>ICAO / IATA Subrisk: Not Applicable<br>ERG Code: 3L |
| **Packing group** | II |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | Special provisions: Not Applicable<br>Cargo Only Packing Instructions: 364<br>Cargo Only Maximum Qty / Pack: 60 L<br>Passenger and Cargo Packing Instructions: 353<br>Passenger and Cargo Maximum Qty / Pack: 5 L<br>Passenger and Cargo Limited Quantity Packing Instructions: Y341<br>Passenger and Cargo Limited Maximum Qty / Pack: 1 L |

**Continued...**

### Sea transport (IMDG-Code / GGVSee)

| | |
|---|---|
| **UN number** | 1648 |
| **UN proper shipping name** | ACETONITRILE |
| **Transport hazard class(es)** | IMDG Class: 3<br>IMDG Subrisk: Not Applicable |
| **Packing group** | II |
| **Environmental hazard** | Not Applicable |
| **Special precautions for user** | EMS Number: F-E , S-D<br>Special provisions: Not Applicable<br>Limited Quantities: 1 L |

### Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

## SECTION 15 Regulatory information

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

**acetonitrile is found on the following regulatory lists**

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals
Australian Inventory of Industrial Chemicals (AIIC)

**cocaine is found on the following regulatory lists**

Australia Standard for the Uniform Scheduling of Medicines and Poisons (SUSMP) - Schedule 8
Chemical Footprint Project - Chemicals of High Concern List
International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs

### National Inventory Status

| National Inventory | Status |
|---|---|
| Australia - AIIC | No (cocaine) |
| Australia - Non-Industrial Use | No (acetonitrile; cocaine) |
| Canada - DSL | No (cocaine) |
| Canada - NDSL | No (acetonitrile; cocaine) |
| China - IECSC | No (cocaine) |
| Europe - EINEC / ELINCS / NLP | Yes |
| Japan - ENCS | No (cocaine) |
| Korea - KECI | No (cocaine) |
| New Zealand - NZIoC | No (cocaine) |
| Philippines - PICCS | No (cocaine) |
| USA - TSCA | No (cocaine) |
| Taiwan - TCSI | Yes |
| Mexico - INSQ | Yes |
| Vietnam - NCI | No (cocaine) |
| Russia - ARIPS | No (cocaine) |
| ***Legend:*** | *Yes = All CAS declared ingredients are on the inventory*<br>*No = One or more of the CAS listed ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)* |

## SECTION 16 Other information

| | |
|---|---|
| **Revision Date** | 30/09/2020 |
| **Initial Date** | 04/12/2017 |

### SDS Version Summary

| Version | Issue Date | Sections Updated |
|---|---|---|
| 2.4.1.1.1 | 30/09/2020 | Name |

### Other information

Classification of the preparation and its individual components has drawn on official and authoritative sources as well as independent review by the Chemwatch Classification committee using available literature references.
The SDS is a Hazard Communication tool and should be used to assist in the Risk Assessment. Many factors determine whether the reported Hazards are Risks in the workplace or other settings. Risks may be determined by reference to Exposures Scenarios. Scale of use, frequency of use and current or available engineering controls must be considered.

### Definitions and abbreviations

PC—TWA: Permissible Concentration-Time Weighted Average
PC—STEL: Permissible Concentration-Short Term Exposure Limit

**Continued...**

IARC: International Agency for Research on Cancer
ACGIH: American Conference of Governmental Industrial Hygienists
STEL: Short Term Exposure Limit
TEEL: Temporary Emergency Exposure Limit。
IDLH: Immediately Dangerous to Life or Health Concentrations
OSF: Odour Safety Factor
NOAEL :No Observed Adverse Effect Level
LOAEL: Lowest Observed Adverse Effect Level
TLV: Threshold Limit Value
LOD: Limit Of Detection
OTV: Odour Threshold Value
BCF: BioConcentration Factors
BEI: Biological Exposure Index

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