

Work Paint INT/EXT (SG)-White F62300

ICP Construction

Version No: 1.1 Safety Data Sheet according to OSHA HazCom Standard (2012) requirements Issue Date: **02/18/2017** Print Date: **02/18/2017** S.GHS.USA.EN

SECTION 1 IDENTIFICATION

Product Identifier

Product name	Work Paint INT/EXT (SG)-White F62300
Synonyms	Not Available
Other means of identification	Not Available

Recommended use of the chemical and restrictions on use

Relevant identified uses	Interior/Exterior Paint

Name, address, and telephone number of the chemical manufacturer, importer, or other responsible party

Registered company name	ICP Construction	
Address	150 Dascomb Road Massachusetts Andover United States	
Telephone	978-623-9980	
Fax	Not Available	
Website	Not Available	
Email	Not Available	

Emergency phone number

Association / Organisation	Chemtel
Emergency telephone numbers	1-800-255-3924
Other emergency telephone numbers	1-813-248-0585

SECTION 2 HAZARD(S) IDENTIFICATION

Classification of the substance or mixture

Classification	Skin Sensitizer Category 1
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Label elements

GHS label elements



SIGNAL WORD WARNING

Hazard statement(s)

U247	May cause an allergic skin reaction
H.517	iviav cause an allerdic skin reaction.

Hazard(s) not otherwise specified

Not Applicable

Precautionary statement(s) Prevention

P280	Wear protective gloves/protective clothing/eye protection/face protection.
P261	Avoid breathing mist/vapours/spray.
P272	Contaminated work clothing should not be allowed out of the workplace.

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Precautionary statement(s) Response

P363	Wash contaminated clothing before reuse.
P302+P352	IF ON SKIN: Wash with plenty of soap and water.
P333+P313	If skin irritation or rash occurs: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

P501 Dispose of contents/container in accordance with local regulations.

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
1317-70-0		titanium dioxide (anatase)
107-21-1	1.2	ethylene glycol
56709-13-8	0.2	azadioxabicyclooctane, isomer 1
8052-41-3.	0.18	white spirit
not avail.	31.2	Non-hazardous ingredient
124-68-5	0.19	<u>monoisobutanolamine</u>
471-34-1	0.01	<u>calcium carbonate</u>
111-46-6	0.03	diethylene glycol
127087-87-0	0.19	mono-p-nonylphenyl ether, branched, ethoxylated
143-22-6	0.03	triethylene glycol monobutyl ether

SECTION 4 FIRST-AID MEASURES

Description of first aid measures

Eye Contact	If this product comes in contact with eyes: • Wash out immediately with water. • If irritation continues, seek medical attention. • Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	If skin contact occurs: Immediately remove all contaminated clothing, including footwear. Flush skin and hair with running water (and soap if available). Seek medical attention in event of irritation.
Inhalation	 If furnes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary.
Ingestion	 Immediately give a glass of water. First aid is not generally required. If in doubt, contact a Poisons Information Centre or a doctor.

Most important symptoms and effects, both acute and delayed

See Section 11

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

For acute or short term repeated exposures to ethylene glycol:

- ▶ Early treatment of ingestion is important. Ensure emesis is satisfactory.
- ► Test and correct for metabolic acidosis and hypocalcaemia.
- Apply sustained diuresis when possible with hypertonic mannitol.

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- ► Evaluate renal status and begin haemodialysis if indicated. [I.L.O]
- Rapid absorption is an indication that emesis or lavage is effective only in the first few hours. Cathartics and charcoal are generally not effective.
- Correct acidosis, fluid/electrolyte balance and respiratory depression in the usual manner. Systemic acidosis (below 7.2) can be treated with intravenous sodium bicarbonate solution.
- ▶ Ethanol therapy prolongs the half-life of ethylene glycol and reduces the formation of toxic metabolites.
- Pyridoxine and thiamine are cofactors for ethylene glycol metabolism and should be given (50 to 100 mg respectively) intramuscularly, four times per day for 2 days.
- Magnesium is also a cofactor and should be replenished. The status of 4-methylpyrazole, in the treatment regime, is still uncertain. For clearance of the material and its metabolites, haemodialysis is much superior to peritoneal dialysis.

[Ellenhorn and Barceloux: Medical Toxicology]

It has been suggested that there is a need for establishing a new biological exposure limit before a workshift that is clearly below 100 mmol ethoxy-acetic acids per mole creatinine in morning urine of people occupationally exposed to ethylene glycol ethers. This arises from the finding that an increase in urinary stones may be associated with such exposures.

Laitinen J., et al: Occupational & Environmental Medicine 1996; 53, 595-600

SECTION 5 FIRE-FIGHTING MEASURES

Extinguishing media

 $\,\blacktriangleright\,$ There is no restriction on the type of extinguisher which may be used

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Use extinguishing media suitable for surrounding area.

Special hazards arising from the substrate or mixture

Fire Incompatibility None known.

Special protective equipment and precautions for fire-fighters

Fire Fighting

- Alert Fire Brigade and tell them location and nature of hazard.
- Wear breathing apparatus plus protective gloves in the event of a fire.
- Prevent, by any means available, spillage from entering drains or water courses.
- $\,\blacktriangleright\,$ Use fire fighting procedures suitable for surrounding area.
- ▶ DO NOT approach containers suspected to be hot.
- Cool fire exposed containers with water spray from a protected location.
- ▶ If safe to do so, remove containers from path of fire.
- ▶ Equipment should be thoroughly decontaminated after use.
- ► Non combustible.

Fire/Explosion Hazard

▶ Not considered a significant fire risk, however containers may burn.

May emit corrosive fumes.

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

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. Stop leak if safe to do so. Contain spill with sand, earth or vermiculite. Collect recoverable product into labelled containers for recycling. Neutraliss/decontaminate residue (see Section 13 for specific agent). Collect solid residues and seal in labelled drums for disposal. Wash area and prevent runoff into drains. After clean up operations, decontaminate and launder all protective clothing and equipment before storing and re-using. If contamination of drains or waterways occurs, advise emergency services.

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

SECTION 7 HANDLING AND STORAGE

Safe handling	 Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Avoid contact with moisture. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. Keep containers securely sealed when not in use. Avoid physical damage to containers. Always wash hands with soap and water after handling. Work clothes should be laundered separately. Launder contaminated clothing before re-use. Use good occupational work practice. Observe manufacturer's storage and handling recommendations contained within this SDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained. DO NOT allow clothing wet with material to stay in contact with skin
Other information	

Conditions for safe storage, including any incompatibilities

Suitable container	Polyethylene or polypropylene container. Packing as recommended by manufacturer. Check all containers are clearly labelled and free from leaks.
Storage incompatibility	None known

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

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Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
US OSHA Permissible Exposure Levels (PELs) - Table Z1	titanium dioxide (anatase)	Titanium dioxide	15 mg/m3	Not Available	Not Available	Total dust
US ACGIH Threshold Limit Values (TLV)	titanium dioxide (anatase)	Titanium dioxide	10 mg/m3	Not Available	Not Available	TLV® Basis: LRT irr
US NIOSH Recommended Exposure Limits (RELs)	titanium dioxide (anatase)	Rutile, Titanium oxide, Titanium peroxide	Not Available	Not Available	Not Available	Ca See Appendix A
US ACGIH Threshold Limit Values (TLV)	ethylene glycol	‡ Ethylene glycol	Not Available	Not Available	100 mg/m3	TLV® Basis: URT & eye irr
US NIOSH Recommended Exposure Limits (RELs)	ethylene glycol	1,2-Dihydroxyethane; 1,2-Ethanediol; Glycol; Glycol alcohol; Monoethylene glycol	Not Available	Not Available	Not Available	See Appendix D
US OSHA Permissible Exposure Levels (PELs) - Table Z1	white spirit	Stoddard solvent	2900 mg/m3 / 500 ppm	Not Available	Not Available	Not Available
US ACGIH Threshold Limit Values (TLV)	white spirit	Stoddard solvent	100 ppm	Not Available	Not Available	TLV® Basis: Eye, skin, & kidney dam; nausea; CNS impair
US NIOSH Recommended Exposure Limits (RELs)	white spirit	Dry cleaning safety solvent, Mineral spirits, Petroleum solvent, Spotting naphtha [Note: A refined petroleum solvent with a flash point of 102-110°F, boiling point of 309-396°F, and containing >65% C10 or higher hydrocarbons.]	350 mg/m3	Not Available	1800 mg/m3	[15-minute]
US OSHA Permissible Exposure Levels (PELs) - Table Z1	calcium carbonate	Calcium carbonate / Calcium carbonate - Respirable fraction	15 mg/m3 / 5 mg/m3	Not Available	Not Available	Total dust
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Calcium carbonate, Natural calcium carbonate [Note: Calcite & aragonite are commercially important natural calcium carbonates.] / Calcium carbonate, Natural calcium carbonate [Note: Marble is a metamorphic form of calcium carbonate.]	10 (total), 5 (resp) mg/m3	Not Available	Not Available	Not Available
US NIOSH Recommended Exposure Limits (RELs)	calcium carbonate	Calcium salt of carbonic acid [Note: Occurs in nature as as limestone, chalk, marble, dolomite, aragonite, calcite and oyster shells.]	10 (total), 5 (resp) mg/m3	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL-1	TEEL-2	TEEL-3
titanium dioxide (anatase)	Titanium oxide; (Titanium dioxide)	30 mg/m3	330 mg/m3	2,000 mg/m3
ethylene glycol	Ethylene glycol	30 ppm	40 ppm	60 ppm
white spirit	Stoddard solvent; (Mineral spirits, 85% nonane and 15% trimethyl benzene)	300 mg/m3	1,800 mg/m3	29500 mg/m3
monoisobutanolamine	Isobutanol-2-amine	17 mg/m3	190 mg/m3	570 mg/m3
calcium carbonate	Limestone; (Calcium carbonate; Dolomite)	45 mg/m3	500 mg/m3	3,000 mg/m3
calcium carbonate	Carbonic acid, calcium salt	45 mg/m3	210 mg/m3	1,300 mg/m3
diethylene glycol	Diethylene glycol	6.9 ppm	140 ppm	860 ppm
mono-p-nonylphenyl ether, branched, ethoxylated	Nonylphenol, 4-, branched, ethoxylated	30 mg/m3	330 mg/m3	2,000 mg/m3

Ingredient	Original IDLH	Revised IDLH
titanium dioxide (anatase)	N.E. mg/m3 / N.E. ppm	5,000 mg/m3
ethylene glycol	Not Available	Not Available
azadioxabicyclooctane, isomer 1	Not Available	Not Available
white spirit	29,500 mg/m3	20,000 mg/m3
Non-hazardous ingredient	Not Available	Not Available
monoisobutanolamine	Not Available	Not Available
calcium carbonate	Not Available	Not Available
diethylene glycol	Not Available	Not Available
mono-p-nonylphenyl ether, branched, ethoxylated	Not Available	Not Available
triethylene glycol monobutyl ether	Not Available	Not Available

Exposure controls

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.

The basic types of engineering controls are:

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Process controls which involve changing the way a job activity or process is done to reduce the risk.

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. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use.

Employers may need to use multiple types of controls to prevent employee overexposure.

General exhaust is adequate under normal operating conditions. If risk of overexposure exists, wear SAA approved respirator. Correct fit is essential to obtain adequate protection. Provide adequate ventilation in warehouse or closed storage areas. Air contaminants generated in the workplace possess varying "escape" velocities which, in turn, determine the "capture velocities" of fresh circulating air required to effectively remove the contaminant.

Type of Contaminant:	Air Speed:
solvent, vapours, degreasing etc., evaporating from tank (in still air)	0.25-0.5 m/s (50-100 f/min)
aerosols, fumes from pouring operations, intermittent container filling, low speed conveyer transfers, welding, spray drift, plating acid fumes, pickling (released at low velocity into zone of active generation)	0.5-1 m/s (100-200 f/min.)
direct spray, spray painting in shallow booths, drum filling, conveyer loading, crusher dusts, gas discharge (active generation into zone of rapid air motion)	1-2.5 m/s (200-500 f/min)
grinding, abrasive blasting, tumbling, high speed wheel generated dusts (released at high initial velocity into zone of very high rapid air motion).	2.5-10 m/s (500-2000 f/min.)

Within each range the appropriate value depends on:

Lower end of the range	Upper end of the range
1: Room air currents minimal or favourable to capture	1: Disturbing room air currents
2: Contaminants of low toxicity or of nuisance value only	2: Contaminants of high toxicity
3: Intermittent, low production.	3: High production, heavy use
4: Large hood or large air mass in motion	4: Small hood - local control only

Simple theory shows that air velocity falls rapidly with distance away from the opening of a simple extraction pipe. Velocity generally decreases with the square of distance from the extraction point (in simple cases). Therefore the air speed at the extraction point should be adjusted, accordingly, after reference to distance from the contaminating source. The air velocity at the extraction fan, for example, should be a minimum of 1-2 m/s (200-400 f/min.) for extraction of solvents generated in a tank 2 meters distant from the extraction point. Other mechanical considerations, producing performance deficits within the extraction apparatus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction systems are installed or used.

Personal protection









Eye and face protection

- Safety glasses with side shields
- Chemical goggles.
- 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. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable. Lens should be removed at the first signs of eye redness or irritation - lens should be removed in a clean environment only after workers have washed hands thoroughly. [CDC NIOSH Current Intelligence Bulletin 59], [AS/NZS 1336 or national equivalent]

Skin protection

Hands/feet protection

See Hand protection below

- Wear chemical protective gloves, e.g. PVC.
- ▶ Wear safety footwear or safety gumboots, e.g. Rubber

NOTE:

- ► 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.
- Contaminated leather items, such as shoes, belts and watch-bands should be removed and destroyed.

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

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.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturizer is recommended.

Suitability and durability of glove type is dependent on usage. Important factors in the selection of gloves include:

- frequency and duration of contact,
- chemical resistance of glove material. glove thickness and

dexterity

Select gloves tested to a relevant standard (e.g. Europe EN 374, US F739, AS/NZS 2161.1 or national equivalent).

- When prolonged or frequently repeated contact may occur, a glove with a protection class of 5 or higher (breakthrough time greater than 240 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- When only brief contact is expected, a glove with a protection class of 3 or higher (breakthrough time greater than 60 minutes according to EN 374, AS/NZS 2161.10.1 or national equivalent) is recommended.
- Some glove polymer types are less affected by movement and this should be taken into account when considering gloves for long-term use.

Contaminated gloves should be replaced.

For general applications, gloves with a thickness typically greater than 0.35 mm, are recommended.

It should be emphasised that glove thickness is not necessarily a good predictor of glove resistance to a specific chemical, as the permeation efficiency of the glove will be dependent on the exact composition of the glove material. Therefore, glove selection should also be based on consideration of the task requirements and knowledge of breakthrough times.

Glove thickness may also vary depending on the glove manufacturer, the glove type and the glove model. Therefore, the manufacturers' technical data should always be taken into account to ensure selection of the most appropriate glove for the task.

Note: Depending on the activity being conducted, gloves of varying thickness may be required for specific tasks. For example:

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	 Thinner gloves (down to 0.1 mm or less) may be required where a high degree of manual dexterity is needed. However, these gloves are only likely to give short duration protection and would normally be just for single use applications, then disposed of. Thicker gloves (up to 3 mm or more) may be required where there is a mechanical (as well as a chemical) risk i.e. where there is abrasion or puncture potential Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.
Body protection	See Other protection below
Other protection	 Overalls. P.V.C. apron. Barrier cream. Skin cleansing cream. Eye wash unit.
Thermal hazards	Not Available

Respiratory protection

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

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Text		
прошино	1000		
Physical state	Liquid	Relative density (Water = 1)	Not Available
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Available
Flash point (°C)	Not Available	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Available	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	Not Available	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution (1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Unstable in the presence of incompatible materials. Product is considered stable. 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	The material is not thought to produce adverse health effects or irritation of the respiratory tract (as classified by EC Directives using animal models). Nevertheless, good hygiene practice requires that exposure be kept to a minimum and that suitable control measures be used in an occupational setting.
Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.
Skin Contact	The liquid may be miscible with fats or oils and may degrease the skin, producing a skin reaction described as non-allergic contact dermatitis. The material is unlikely to produce an irritant dermatitis as described in EC Directives.
Eye	Although the liquid is not thought to be an irritant (as classified by EC Directives), direct contact with the eye may produce transient discomfort characterised by tearing or conjunctival redness (as with windburn).
Chronic	Skin contact with the material is more likely to cause a sensitisation reaction in some persons compared to the general population.

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Work Paint INT/EXT	TOXICITY IRRITATION				
(SG)-White F62300	Not Available Not Available				
	TOXICITY			IRRITATION	
	Inhalation (rat) LC50: >2.28 mg/l/4hr ^[1]			Not Available	
	Inhalation (rat) LC50: >3.56 mg/l/4hr ^[1]				
titanium dioxide (anatase)	Inhalation (rat) LC50: >6.82 mg/l/4hr ^[1]				
	Inhalation (rat) LC50: 3.43 mg/l/4hr ^[1]				
	Inhalation (rat) LC50: 5.09 mg/l/4hr ^[1]				
	Oral (rat) LD50: >2000 mg/kg ^[1]				
				'	
	TOXICITY		IRRITATION		
	Dermal (rabbit) LD50: 9530 mg/kg ^[2]		Eye (rabbit): 100 mg/1	h - mild	
	Inhalation (rat) LC50: 50.1 mg/L/8 hr ^[2]		Eye (rabbit): 12 mg/m	3/3D	
ethylene glycol	Oral (rat) LD50: 4700 mg/kg ^[2]		Eye (rabbit): 1440mg/	Sh-moderate	
			Eye (rabbit): 500 mg/2	4h - mild	
			Skin (rabbit): 555 mg(open)-mild	
	TOXICITY			IRRITATION	
azadioxabicyclooctane, isomer 1	Dermal (rabbit) LD50: >2000 mg/kg ^[2]		Not Available		
Isomeri	Oral (rat) LD50: 2950 mg/kg ^[2]				
				<u> </u>	
	TOXICITY IRRITATION				
white spirit	Inhalation (rat) LC50: >1400 ppm/8hr ^[2] Eye (human): 470 ppm/		v/15m		
	Eye (rabbit): 500 mg/24h		4h moderate		
Nan barandana inanadiant	TOXICITY IRRITATION				
Non-hazardous ingredient	Not Available	Not Available			
	TOXICITY			IRRITATION	
monoisobutanolamine	Dermal (rabbit) LD50: >2000 mg/kg ^[1]			Not Available	
	Oral (rat) LD50: 2900 mg/kg ^[2]				
	TOXICITY	IRRIT	TATION		
calcium carbonate	dermal (rat) LD50: >2000 mg/kg ^[1]	dermal (rat) LD50: >2000 mg/kg ^[1] Eye (rabbit): 0.75 mg/24h - SEV		EVERE	
	Oral (rat) LD50: >2000 mg/kg ^[1]	Skin ((rabbit): 500 mg/24h-m	oderate	
	TOXICITY		IRRITATION		
	Dermal (rabbit) LD50: 11890 mg/kg ^[2] Eye (rabbit) 50 mg		d		
diethylene glycol	Oral (rat) LD50: 12000 mg/kg ^[2]				
		Skin (rabb		ng mild	
	TOXICITY		IRRITATION		
nono-p-nonylphenyl ether, branched, ethoxylated	TOXICITY Oral (rat) LD50: 1310 mg/kg ^[2]		IRRITATION Eye (rabbit): S	EVERE	
nono-p-nonylphenyl ether, branched, ethoxylated					
			Eye (rabbit): S		
		IF	Eye (rabbit): S		
branched, ethoxylated	Oral (rat) LD50: 1310 mg/kg ^[2]		Eye (rabbit): S Skin (rabbit): N	лiid	
	Oral (rat) LD50: 1310 mg/kg ^[2] TOXICITY	E	Eye (rabbit): S Skin (rabbit): N	/ilid - moderate	
branched, ethoxylated	Oral (rat) LD50: 1310 mg/kg ^[2] TOXICITY Dermal (rabbit) LD50: 3051 mg/kg ^[2]	E	Eye (rabbit): S Skin (rabbit): N RRITATION Eye (rabbit): 20 mg/24h	/iiid - moderate VERE	

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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

TITANIUM DIOXIDE (ANATASE)	Exposure to titanium dioxide is via inhalation, swallowing or skin contact. When inhaled, it may deposit in lung tissue and lymph nodes causing dysfunction of the lungs and immune system. Absorption by the stomach and intestines depends on the size of the particle.			
ETHYLENE GLYCOL	For ethylene glycol: Ethylene glycol is quickly and extensively absorbed through the gastrointestinal tract. Limited information suggests that it is also absorbed through the respiratory tract; dermal absorption is apparently slow. Following absorption, ethylene glycol is distributed throughout the body according to total body water. [Estimated Lethal Dose (human) 100 ml; RTECS quoted by Orica] Substance is reproductive effector in rats (birth defects). Mutagenic to rat cells.			
AZADIOXABICYCLOOCTANE, ISOMER 1	The following information refers to contact allergens as a group and may not be specific to this product. 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. For azadioxabicyclooctanes: The acute oral and dermal toxicities of azadioxabicyclooctane are low. The acute inhalation toxicity showed a median lethal dose range of between 0.441 mg/L and 0.819 mg/L in males, and between 0.819 mg/L and 1.397 mg/L in females, with epistaxis, labored breathing, rales, and rhinorrhoea in all dose groups. Corneal opacity was observed in the primary eye irritation study resulting . * CCInfo			
WHITE SPIRIT	for petroleum: This product contains benzene which is known to cause acute myeloid leukaemia and n-hexane which has been shown to metabolize to compounds which are neuropathic. This product contains toluene. There are indications from animal studies that prolonged exposure to high concentrations of toluene may lead to hearing loss. white spirit, as CAS RN 8052-41-3			
MONOISOBUTANOLAMINE	TRIS AMINO and its surrogate chemicals have very little, if any, toxicity. They are mildly irritating to eyes at moderate concentrations, and do not cause allergic skin reactions. Ingestion of relatively high dosages can cause liver changes.			
CALCIUM CARBONATE	No evidence of carcinogenic properties. No evidence of mutagenic or teratogenic effects.			
MONO-P-NONYLPHENYL ETHER, BRANCHED, ETHOXYLATED	for linear material: Maternal effects, effects on fertility recorded.			
TRIETHYLENE GLYCOL MONOBUTYL ETHER	Tri-ethylene glycol ethers undergo enzymatic oxidation to toxic alkoxy acids. They may irritate the skin and the eyes. At high oral doses, they may cause depressed reflexes, flaccid muscle tone, breathing difficulty and coma.			
AZADIOXABICYCLOOCTANE, ISOMER 1 & CALCIUM CARBONATE	Asthma-like symptoms may continue for months or even years after exposure to the material ceases. This may be due to a non-allergenic condition known as reactive airways dysfunction syndrome (RADS) which can occur following exposure to high levels of highly irritating compound. Key criteria for the diagnosis of RADS include the absence of preceding respiratory disease, in a non-atopic individual, with abrupt onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant.			
CALCIUM CARBONATE & MONO-P-NONYLPHENYL ETHER, BRANCHED, ETHOXYLATED & TRIETHYLENE GLYCOL MONOBUTYL ETHER	The material may produce severe irritation to the eye causing pronounced inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.			
CALCIUM CARBONATE & DIETHYLENE GLYCOL & MONO-P-NONYLPHENYL ETHER, BRANCHED, ETHOXYLATED & TRIETHYLENE GLYCOL MONOBUTYL ETHER	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.			
Acute Toxicity	Carcinogenicity	0		
Skin Irritation/Corrosion	Reproductivity	0		
Serious Eye Damage/Irritation	STOT - Single Exposure	0		
Respiratory or Skin sensitisation	✓ STOT - Repeated Exposure	0		

Aspiration Hazard Legend:

X − Data available but does not fill the criteria for classification
 ✓ − Data available to make classification

0

O - Data Not Available to make classification

SECTION 12 ECOLOGICAL INFORMATION

Mutagenicity

0

Toxicity

TOXIOITY					
Ingredient	Endpoint	Test Duration (hr)	Species	Value	Source
titanium dioxide (anatase)	LC50	96	Fish	9.214mg/L	3
titanium dioxide (anatase)	EC50	48	Crustacea	>10mg/L	2
titanium dioxide (anatase)	EC50	72	Algae or other aquatic plants	5.83mg/L	4
titanium dioxide (anatase)	EC20	72	Algae or other aquatic plants	1.81mg/L	4
titanium dioxide (anatase)	NOEC	336	Fish	0.089mg/L	4
ethylene glycol	LC50	96	Fish	2284.940mg/L	3
ethylene glycol	EC50	48	Crustacea	5046.29mg/L	5
ethylene glycol	EC50	96	Algae or other aquatic plants	6500-13000mg/L	1

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ethylene glycol	EC50	Not Applicable	Crustacea	=10mg/L	1
ethylene glycol	NOEC	552	Crustacea	>=1000mg/L	2
azadioxabicyclooctane, isomer 1	LC50	96	Fish	28073.682mg/L	3
azadioxabicyclooctane, isomer 1	EC50	96	Algae or other aquatic plants	503.941mg/L	3
azadioxabicyclooctane, isomer 1	LC50	96	Fish	7479.033mg/L	3
azadioxabicyclooctane, isomer 1	EC50	96	Algae or other aquatic plants	193.440mg/L	3
monoisobutanolamine	LC50	96	Fish	=100mg/L	1
monoisobutanolamine	EC50	48	Crustacea	=193mg/L	1
monoisobutanolamine	EC50	96	Algae or other aquatic plants	52.872mg/L	3
monoisobutanolamine	EC50	24	Crustacea	=65mg/L	1
calcium carbonate	LC50	96	Fish	>56000mg/L	4
calcium carbonate	EC50	72	Algae or other aquatic plants	>14mg/L	2
calcium carbonate	NOEC	72	Algae or other aquatic plants	14mg/L	2
diethylene glycol	LC50	96	Fish	6.19174mg/L	3
diethylene glycol	EC50	48	Crustacea	=84000mg/L	1
diethylene glycol	EC50	96	Algae or other aquatic plants	62052.293mg/L	3
diethylene glycol	EC10	24	Algae or other aquatic plants	>1000mg/L	4
diethylene glycol	NOEC	168	Algae or other aquatic plants	=100mg/L	1
triethylene glycol monobutyl ether	LC50	96	Fish	1350mg/L	1
triethylene glycol monobutyl ether	EC50	48	Crustacea	>500mg/L	1
triethylene glycol monobutyl ether	EC50	72	Algae or other aquatic plants	>500mg/L	1
triethylene glycol monobutyl ether	EC20	72	Algae or other aquatic plants	=270mg/L	1
triethylene glycol monobutyl	NOEC	96	Fish	1000mg/L	1

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

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
titanium dioxide (anatase)	HIGH	HIGH
ethylene glycol	LOW (Half-life = 24 days)	LOW (Half-life = 3.46 days)
azadioxabicyclooctane, isomer 1	нівн	HIGH
monoisobutanolamine	LOW	LOW
diethylene glycol	LOW	LOW
triethylene glycol monobutyl ether	LOW	LOW

Bioaccumulative potential

Ingredient	Bioaccumulation
titanium dioxide (anatase)	LOW (BCF = 10)
ethylene glycol	LOW (BCF = 200)
azadioxabicyclooctane, isomer	LOW (LogKOW = -1.5532)
monoisobutanolamine	LOW (BCF = 330)
diethylene glycol	LOW (BCF = 180)
triethylene glycol monobutyl ether	LOW (LogKOW = 0.0178)

Mobility in soil

Ingredient	Mobility
titanium dioxide (anatase)	LOW (KOC = 23.74)
ethylene glycol	HIGH (KOC = 1)
azadioxabicyclooctane, isomer 1	LOW (KOC = 10)

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monoisobutanolamine	MEDIUM (KOC = 2.196)
diethylene glycol	HIGH (KOC = 1)
triethylene glycol monobutyl ether	LOW (KOC = 10)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

- ▶ Containers may still present a chemical hazard/ danger when empty.
- ▶ Return to supplier for reuse/ recycling if possible

Otherwise:

- 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.
- ▶ Where possible retain label warnings and SDS and observe all notices pertaining to the product.

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.

A Hierarchy of Controls seems to be common - the user should investigate:

- ▶ Reduction
- Reuse
- ► Recycling
- Product / Packaging disposal

Disposal (if all else fails)

This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life considerations should also be applied in making decisions of this type. Note that properties of a material may change in use, and recycling or reuse may not always be appropriate.

- DO NOT allow wash water from cleaning or process equipment to enter drains.
- ▶ It may be necessary to collect all wash water for treatment before disposal.
- ▶ In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
- ▶ Where in doubt contact the responsible authority.
- Recycle wherever possible.
- Consult manufacturer for recycling options or consult local or regional waste management authority for disposal if no suitable treatment or disposal facility
 can be identified.
- ► Dispose of by: burial in a land-fill specifically licensed to accept chemical and / or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material).
- ▶ Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

SECTION 14 TRANSPORT INFORMATION

Labels Required

Marine Pollutant NC

Land transport (DOT): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

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

\parallel TITANIUM DIOXIDE (ANATASE)(1317-70-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC	US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
Monographs	US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
US - Alaska Limits for Air Contaminants	US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air
US - California Permissible Exposure Limits for Chemical Contaminants	Contaminants
US - California Proposition 65 - Carcinogens	US - Washington Permissible exposure limits of air contaminants
US - Hawaii Air Contaminant Limits	US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US - Idaho - Limits for Air Contaminants	US ACGIH Threshold Limit Values (TLV)
US - Massachusetts - Right To Know Listed Chemicals	US ACGIH Threshold Limit Values (TLV) - Carcinogens
US - Michigan Exposure Limits for Air Contaminants	US NIOSH Recommended Exposure Limits (RELs)
US - Minnesota Permissible Exposure Limits (PELs)	US OSHA Permissible Exposure Levels (PELs) - Table Z1
US - Oregon Permissible Exposure Limits (Z-1)	US Priority List for the Development of Proposition 65 Safe Harbor Levels - No Significant Risk
US - Pennsylvania - Hazardous Substance List	Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for
US - Rhode Island Hazardous Substance List	Chemicals Causing Reproductive Toxicity
	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

ETHYLENE GLYCOL(107-21-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

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US - Alaska Limits for Air Contaminants US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air Contaminants US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs (CRELs) US - Washington Permissible exposure limits of air contaminants US - California Permissible Exposure Limits for Chemical Contaminants US - Washington Toxic air pollutants and their ASIL, SQER and de minimis emission values US - California Proposition 65 - Reproductive Toxicity US ACGIH Threshold Limit Values (TLV) US ACGIH Threshold Limit Values (TLV) - Carcinogens US - Hawaii Air Contaminant Limits US - Massachusetts - Right To Know Listed Chemicals US ACGIH Threshold Limit Values (TLV) - Notice of Intended Changes US - Michigan Exposure Limits for Air Contaminants US ATSDR Minimal Risk Levels for Hazardous Substances (MRLs) US - Minnesota Permissible Exposure Limits (PELs) US Clean Air Act - Hazardous Air Pollutants US - Oregon Permissible Exposure Limits (Z-1) US EPCRA Section 313 Chemical List US NIOSH Recommended Exposure Limits (RELs) US - Pennsylvania - Hazardous Substance List US - Rhode Island Hazardous Substance List US Spacecraft Maximum Allowable Concentrations (SMACs) for Airborne Contaminants US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

AZADIOXABICYCLOOCTANE, ISOMER 1(56709-13-8) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

WHITE SPIRIT(8052-41-3.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants

International Agency for Research on Cancer (IARC) - Agents Classified by the IARC	US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
Monographs	US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
US - Alaska Limits for Air Contaminants	US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air
US - California Permissible Exposure Limits for Chemical Contaminants	Contaminants
US - California Proposition 65 - Carcinogens	US - Washington Permissible exposure limits of air contaminants
US - Hawaii Air Contaminant Limits	US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US - Idaho - Limits for Air Contaminants	US ACGIH Threshold Limit Values (TLV)
US - Massachusetts - Right To Know Listed Chemicals	US ACGIH Threshold Limit Values (TLV) - Carcinogens
US - Michigan Exposure Limits for Air Contaminants	US National Toxicology Program (NTP) 14th Report Part A Known to be Human Carcinogens
US - Minnesota Permissible Exposure Limits (PELs)	US NIOSH Recommended Exposure Limits (RELs)
US - Oregon Permissible Exposure Limits (Z-1)	US OSHA Permissible Exposure Levels (PELs) - Table Z1
US - Pennsylvania - Hazardous Substance List	US Priority List for the Development of Proposition 65 Safe Harbor Levels - No Significant Risk
US - Rhode Island Hazardous Substance List	Levels (NSRLs) for Carcinogens and Maximum Allowable Dose Levels (MADLs) for
	Chemicals Causing Reproductive Toxicity
	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

NON-HAZARDOUS INGREDIENT(NOT AVAIL.) IS FOUND ON THE FOLLOWING REGULATORY LISTS

Not Applicable

MONOISOBUTANOLAMINE(124-68-5) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Massachusetts - Right To Know Listed Chemicals
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US - Pennsylvania - Hazardous Substance List

CALCIUM CARBONATE(471-34-1) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Alaska Limits for Air Contaminants	US - Rhode Island Hazardous Substance List
US - California Permissible Exposure Limits for Chemical Contaminants	US - Tennessee Occupational Exposure Limits - Limits For Air Contaminants
US - Hawaii Air Contaminant Limits	US - Vermont Permissible Exposure Limits Table Z-1-A Final Rule Limits for Air Contaminants
US - Idaho - Limits for Air Contaminants	US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air
US - Massachusetts - Right To Know Listed Chemicals	Contaminants
US - Michigan Exposure Limits for Air Contaminants	US - Washington Permissible exposure limits of air contaminants
US - Minnesota Permissible Exposure Limits (PELs)	US - Wyoming Toxic and Hazardous Substances Table Z1 Limits for Air Contaminants
US - Oregon Permissible Exposure Limits (Z-1)	US NIOSH Recommended Exposure Limits (RELs)
US - Pennsylvania - Hazardous Substance List	US OSHA Permissible Exposure Levels (PELs) - Table Z1
·	US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

DIETHYLENE GLYCOL(111-46-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Pennsylvania - Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Rhode Island Hazardous Substance List
US - Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

MONO-P-NONYLPHENYL ETHER, BRANCHED, ETHOXYLATED(127087-87-0) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - Vermont Permissible Exposure Limits Table Z-1-A Transitional Limits for Air

US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory

Contaminants

TRIETHYLENE GLYCOL MONOBUTYL ETHER(143-22-6) IS FOUND ON THE FOLLOWING REGULATORY LISTS

US - California OEHHA/ARB - Acute Reference Exposure Levels and Target Organs (RELs)
US - California OEHHA/ARB - Chronic Reference Exposure Levels and Target Organs
(CRELs)
US Clean Air Act - Hazardous Air Pollutants
US EPCRA Section 313 Chemical List
US Toxic Substances Control Act (TSCA) - Chemical Substance Inventory
US - Pennsylvania - Hazardous Substance List

Federal Regulations

Superfund Amendments and Reauthorization Act of 1986 (SARA)

SECTION 311/312 HAZARD CATEGORIES

Immediate (acute) health hazard	Yes
Delayed (chronic) health hazard	No
Fire hazard	No
Pressure hazard	No
Reactivity hazard	No

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US. EPA CERCLA HAZARDOUS SUBSTANCES AND REPORTABLE QUANTITIES (40 CFR 302.4)

Name	Reportable Quantity in Pounds (lb)	Reportable Quantity in kg
Ethylene glycol	5000	2270

State Regulations

US. CALIFORNIA PROPOSITION 65

WARNING: This product contains a chemical known to the State of California to cause cancer and birth defects or other reproductive harm

US - CALIFORNIA PREPOSITION 65 - CARCINOGENS & REPRODUCTIVE TOXICITY (CRT): LISTED SUBSTANCE

Titanium dioxide (airborne, unbound particles of respirable size), Ethylene glycol (ingested), Soots, tars, and mineral oils (untreated and mildly treated oils and used engine oils) Listed

National Inventory	Status
Australia - AICS	Υ
Canada - DSL	Υ
Canada - NDSL	N (mono-p-nonylphenyl ether, branched, ethoxylated; monoisobutanolamine; diethylene glycol; white spirit; ethylene glycol; triethylene glycol monobutyl ether; azadioxabicyclooctane, isomer 1)
China - IECSC	Υ
Europe - EINEC / ELINCS / NLP	Y
Japan - ENCS	N (mono-p-nonylphenyl ether, branched, ethoxylated; azadioxabicyclooctane, isomer 1)
Korea - KECI	Υ
New Zealand - NZIoC	Υ
Philippines - PICCS	Υ
USA - TSCA	Υ
Legend:	Y = All ingredients are on the inventory N = Not determined or one or more ingredients are not on the inventory and are not exempt from listing(see specific ingredients in brackets)

SECTION 16 OTHER INFORMATION

CONTACT POINT

PLEASE NOTE THAT TITANIUM DIOXIDE IS NOT PRESENT IN CLEAR OR NEUTRAL BASES

Other information

Ingredients with multiple cas numbers

Name	CAS No
titanium dioxide (anatase)	1317-70-0, 13463-67-7
azadioxabicyclooctane, isomer 1	56709-13-8, 107497-96-1, 59720-42-2, 6542-37-6
calcium carbonate	471-34-1, 13397-26-7, 15634-14-7, 1317-65-3, 72608-12-9, 878759-26-3, 63660-97-9, 459411-10-0, 198352-33-9, 146358-95-4

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

 ${\sf PC-STEL} : {\sf Permissible Concentration-Short Term Exposure Limit}$

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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