

SCENT -CUTIE HAND SANITIZER

ChemWatch Material Safety Data Sheet

CHEMWATCH 4811-18

Date of Issue: Wed 11-Jun-2003

PRODUCT NAME

SCENT -CUTIE HAND SANITIZER

STATEMENT OF HAZARDOUS NATURE

CONSIDERED A DANGEROUS SUBSTANCE ACCORDING TO DIRECTIVE 67/548/EEC, POINT 4; AND HAZARDOUS ACCORDING TO OSHA 29 CFR 1910.1200 (USA).

SUPPLIER

Company:

Double Class (M) Sdn Bhd

Address:

No.14, Jalan 4

Pandan Inidah Industrial Park,

Kuala Lumpur, 55100

Malaysia

Telephone: +60 3 4280 9898

CONTACT

National Poisons Center of Malaysia

1800 888 099 (office hours)

MOLECULAR MASS

Molecular mass: Not Applicable

PRODUCT USE

Waterless hand sanitizer.

SYNONYMS

Section 2 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	R CODE	INT	HAZ	%
ethanol	R11,R36	F+,Xi	>60	
CAS RN: 64-17-5				
propylene glycol	None	None	1-5	
CAS RN: 57-55-6				
triethanolamine	R36	Xi	0-0.3	
CAS RN: 102-71-6				

carbomer 940 0-0.3
water None None 10-30
CAS RN: 7732-18-5

Section 3 - PHYSICAL AND CHEMICAL PROPERTIES

PHYSICAL PROPERTIES

Liquid.

Mixes with water.

Molecular Weight: Not Applicable
Boiling Range (°C): Not Available
Melting Range (°C): Not Available
Specific Gravity (water=1): Not Available
Solubility in water (g/L): Miscible
pH (as supplied): Not Available
pH (1% solution): Not Available
Vapour Pressure (kPa): Not Available
Volatile Component (% vol): Not Available
Evaporation Rate: Not Available
Relative Vapour Density (air=1): Not Available
Flash Point (°C): <23
Lower Explosive Limit (%): Not Available
Upper Explosive Limit (%): Not Available
Autoignition Temp (°C): Not Available
Decomposition Temp (°C): Not Available
State: Liquid

APPEARANCE

Highly flammable liquid; soluble in water.

Section 4 - HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW

RISK

In use, may form flammable/explosive vapour-air mixture.

Can become highly flammable in use.

Irritating to eyes and respiratory system.

Highly flammable.

Vapours potentially cause drowsiness and dizziness*.

Cumulative effects may result following exposure*.

May produce skin discomfort*.

Possible skin sensitiser*.

Inhalation and/or ingestion may produce health damage*.

* (limited evidence).

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

Accidental ingestion of the material may be damaging to the health of the individual; animal experiments indicate that ingestion of less than 150 gram may be fatal.

EYE

Evidence exists, or practical experience predicts, that the material may cause eye irritation in a substantial number of individuals and/or may produce significant ocular lesions which are present twenty-four hours or more after instillation into the eye(s) of experimental animals.

SKIN

Limited evidence exists, or practical experience predicts, that the material either produces inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant inflammation when applied to the healthy intact skin of animals, for up to four hours, such inflammation being present twenty-four hours or more after the end of the exposure period. Skin contact is not thought to harmful health effects (as classified under EC Directives); the material may still produce health damage following entry through wounds, lesions or abrasions.

INHALED

Inhalation may produce health damage*.

Evidence shows, or practical experience predicts, that the material produces irritation of the respiratory system in a substantial number of individuals following inhalation.

Vapours potentially cause drowsiness and dizziness*.

CHRONIC HEALTH EFFECTS

Cumulative effects may result following exposure*.

There exists limited evidence that shows that skin contact with the material is

capable either of inducing a sensitisation reaction in a significant number of individuals, and/or of producing positive response in experimental animals.

There is limited evidence that, skin contact with this product is more likely to cause a sensitisation reaction in some persons compared to the general population.

Prolonged exposure to ethanol may cause damage to the liver and cause scarring. It may also worsen damage caused by other agents. Large amounts of ethanol taken in pregnancy may result in "foetal alcohol syndrome", characterised by delay in mental and physical development, learning difficulties, behavioural problems and small head size. A small number of people develop allergic reactions to ethanol, which include eye infections, skin swelling, shortness of breath, and itchy rashes with blisters.

Prolonged or chronic exposure to alkanolamines may result in liver, kidney or nervous system injury. Repeated inhalation may aggravate asthma and inflammatory or fibrotic pulmonary disease.

Results of repeated exposure tests with diethanolamine (DEA) in laboratory animals include anaemia (rats) and effects on the kidneys (rats and mice) and liver (mice). DEA produces nervous system injury in dogs and rats. Heart and salivary gland lesions have also been seen in mice treated cutaneously with DEA and in mice receiving DEA in drinking water. Rats given high doses of DEA developed anaemia and testicular lesions.

Exaggerated doses of DEA produced heart and nervous system effects in other animals. Changes in other organs were judged to be secondary due to the poor health of animals subjected to extremely high doses of DEA. Rats, rabbits and guinea pigs exposed to high vapour concentrations of volatile monoethanolamine (MEA) (up to 1250 ppm) for periods of up to 5 weeks developed pulmonary, hepatic and renal lesions. Dogs, rats and guinea pigs exposed to 100 ppm MEA for 30 days, became apathetic and developed poor appetites. Animal tests also indicate that inhalation exposure to MEA may result in nervous system injury. All species exposed to airborne MEA experienced dermal effects, varying from ulceration to hair loss probably resulting from contact with the cage.

An increased incidence of skeletal variations, suggestive of a slight developmental delay was seen in the foetuses of rats given 1500 mg/kg/day DEA cutaneously; this also produced significant maternal toxicity. No foetal malformations, however, were seen in rats nor in rabbits receiving identical treatment. The foetus of rats given high doses of MEA by gavage, showed an increased rate of embryofoetal death, growth retardation, and some malformations including hydronephrosis and hydroureter. The high doses required to produce these effects bring into question the relevance of this finding to humans. There is some evidence that embryofoetotoxicity and teratogenicity does not occur in rats when MEA is administered by dermal application to the mother.

The National Toxicology Program (NTP) concluded that there is clear evidence of liver tumours and some evidence of kidney tumours in mice exposed dermally to DEA over their lifetime. Chronic skin painting studies in mice of both sexes produced liver tumours and an increased incidence of kidney tumours in male

mice. The significance of these findings to humans is unclear as DEA is neither genotoxic, mutagenic nor clastogenic, and did not induce tumours in rats or transgenic mice similarly treated. Alkanolamines (especially those containing a secondary amine moiety) may react with nitrites or other nitrosating agents to form carcinogenic N-nitrosamines. Alkanolamines are metabolised by biosynthetic routes to ethanolamine and choline and incorporated into phospholipids. They are excreted predominantly unchanged with a half-life of approximately one week. In the absence of sodium nitrite, no conversion to carcinogenic N-nitrosamines are observed.

Diethanolamine competitively inhibits the cellular uptake of choline, in vitro, and hepatic changes in choline homeostasis, consistent with choline deficiency, are observed in vivo.

Many amines are potent skin and respiratory sensitisers and certain individuals especially those described as "atopic" (i.e. those predisposed to asthma and other allergic responses) may show allergic reactions when chronically exposed to alkanolamines.

In a study with coconut diethanolamide, the National Toxicology Program (Technical Report Series 479), showed clear evidence of carcinogenic activity in male B6C3F1 mice based on increased incidences of hepatic and renal tubule neoplasms and in female B6C3F1 mice based on increased incidences of hepatic neoplasms. There was equivocal evidence of carcinogenic activity in female F344/N rats based on a marginal increase in the incidence of renal tube neoplasms. These increases were associated with the concentration of free diethanolamine present as a contaminant in the diethanolamine condensate. Exposure to rats to coconut oil diethanolamine condensate by dermal application in ethanol for 2-years resulted in epidermal hyperplasia, sebaceous gland hyperplasia, hyperkeratosis and parakeratosis in males and females and ulcer in females at the site of application. There were increases in the incidences of chronic inflammation, epithelial hyperplasia, and epithelial ulcer in the forestomach of female rats. The severity of nephropathy in dosed female rats were increased. Exposure of mice to coconut oil diethanolamine condensate by dermal application for 2-years resulted in increased incidences of eosinophilic foci of the liver in males. Increased incidences of epidermal hyperplasia, sebaceous gland hyperplasia, and hyperkeratosis in males and females, ulcer in males, and parakeratosis and inflammation in females at the site of application and of follicular cell hyperplasia in the thyroid gland of males and females, were chemical related.

Section 5 - FIRST AID MEASURES

SWALLOWED

DO NOT induce vomiting.

If vomiting occurs, lean patient forward or place on left side (head-down

position, if possible) to maintain open airway and prevent aspiration.

Observe the patient carefully.

Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious.

Give water (or milk) to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.

Transport to hospital or doctor without delay.

EYE

If this product comes in contact with the eyes:

Immediately hold the eyes open and wash with fresh running water.

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.

If pain persists or recurs seek medical attention.

Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.

SKIN

If product comes in contact with the skin:

Immediately remove all contaminated clothing, including footwear

Wash affected areas thoroughly with water (and soap if available).

Seek medical attention in event of irritation.

INHALED

If fumes or combustion products are inhaled: Remove to fresh air.

Lay patient down. Keep warm and rested.

Prostheses such as false teeth, which may block airway, should be removed, where possible, prior to initiating first aid procedures

If breathing is shallow or has stopped, ensure clear airway and apply resuscitation, preferably with a demand valve resuscitator, bag-valve mask device, or pocket mask as trained. Perform CPR if necessary.

Transport to hospital, or doctor.

NOTES TO PHYSICIAN

Treat symptomatically.

For acute or short term repeated exposures to ethanol:

Acute ingestion in non-tolerant patients usually responds to supportive care with special attention to prevention of aspiration, replacement of fluid and correction of nutritional deficiencies (magnesium, thiamine pyrodoxine, Vitamins C K)

Give 50% dextrose (50-100 ml) IV to obtunded patients following blood draw for glucose determination.

Comatose patients should be treated with initial attention to airway, breathing, circulation and drugs of immediate importance (glucose, thiamine)

Decontamination is probably unnecessary more than 1 hour after a single observed ingestion. Cathartics and charcoal may be given but are probably not effective in single ingestions.

Fructose administration is contra-indicated due to side effects.

Section 6 - FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA

Water spray or fog.

Foam.

Dry chemical powder.

BCF (where regulations permit).

Carbon dioxide.

FIRE FIGHTING

Alert Fire Brigade and tell them location and nature of hazard.

May be violently or explosively reactive.

Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water course.

Consider evacuation (or protect in place).

Fight fire from a safe distance, with adequate cover.

If safe, switch off electrical equipment until vapour fire hazard removed.

Use water delivered as a fine spray to control the fire and cool adjacent area.

Avoid spraying water onto liquid pools.

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.

When any large container (including road and rail tankers) is involved in a fire, consider evacuation by 500 metres in all directions.

FIRE/EXPLOSION HAZARD

Liquid and vapour are highly flammable.

Severe fire hazard when exposed to heat, flame and/or oxidisers.

Vapour may travel a considerable distance to source of ignition.

Heating may cause expansion or decomposition leading to violent rupture of containers.

On combustion, may emit toxic fumes of carbon monoxide (CO).

Combustion products include

carbon dioxide (CO₂)

other pyrolysis products typical of burning organic material

FIRE INCOMPATIBILITY

Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result

Section 7 - ACCIDENTAL RELEASE MEASURES

MINOR SPILLS

Remove all ignition sources.

Clean up all spills immediately.

Avoid breathing vapours and contact with skin and eyes.

Control personal contact by using protective equipment.

Contain and absorb small quantities with vermiculite or other absorbent material.

Wipe up.

Collect residues in a flammable waste container.

MAJOR SPILLS

Clear area of personnel and move upwind.

Alert Fire Brigade and tell them location and nature of hazard.

May be violently or explosively reactive.

Wear breathing apparatus plus protective gloves.

Prevent, by any means available, spillage from entering drains or water course.

Consider evacuation (or protect in place).

No smoking, naked lights or ignition sources.

Increase ventilation.

Stop leak if safe to do so.

Water spray or fog may be used to disperse /absorb vapour.

Contain spill with sand, earth or vermiculite.

Use only spark-free shovels and explosion proof equipment.

Collect recoverable product into labelled containers for recycling.

Absorb remaining product with sand, earth or vermiculite.

Collect solid residues and seal in labelled drums for disposal.

Wash area and prevent runoff into drains.

If contamination of drains or waterways occurs, advise emergency services.

PROTECTIVE ACTIONS FOR SPILL

From IERG (Canada/Australia)

Isolation Distance 25 metres

Downwind Protection Distance 300 metres

FOOTNOTES

- 1 PROTECTIVE ACTION ZONE is defined as the area in which people are at risk of harmful exposure. This zone assumes that random changes in wind direction confines the vapour plume to an area within 30 degrees on either side of the predominant wind direction, resulting in a crosswind protective action distance equal to the downwind protective action distance.
- 2 PROTECTIVE ACTIONS should be initiated to the extent possible, beginning with those closest to the spill and working away from the site in the downwind direction. Within the protective action zone a level of vapour concentration may exist resulting in nearly all unprotected persons becoming incapacitated and unable to take protective action and/or incurring serious or irreversible health effects.
- 3 INITIAL ISOLATION ZONE is determined as an area, including upwind of the incident, within which a high probability of localised wind reversal may expose nearly all persons without appropriate protection to life-threatening concentrations of the material.
- 4 SMALL SPILLS involve a leaking package of 200 litres (55 US gallons) or less, such as a drum (jerrican or box with inner containers). Larger packages leaking less than 200 litres and compressed gas leaking from a small cylinder are also considered "small spills".
LARGE SPILLS involve many small leaking packages or a leaking package of greater than 200 litres, such as a cargo tank, portable tank or a "one-tonne" compressed gas cylinder.
- 5 Guide 127 is taken from the US DOT emergency response guide book.
- 6 IERG information is derived from CANUTEC - Transport Canada.

Section 8 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- Avoid all personal contact, including inhalation.
- Wear protective clothing when risk of exposure occurs.
- Use in a well-ventilated area.
- Prevent concentration in hollows and sumps.
- DO NOT enter confined spaces until atmosphere has been checked.
- Avoid smoking, naked lights, heat or ignition sources.
- When handling, DO NOT eat, drink or smoke.
- Vapour may ignite on pumping or pouring due to static electricity.
- DO NOT use plastic buckets.
- Earth and secure metal containers when dispensing or pouring product.
- Use spark-free tools when handling.
- Avoid contact with incompatible materials.
- Keep containers securely sealed.
- Avoid physical damage to containers.
- Always wash hands with soap and water after handling.
- Work clothes should be laundered separately.
- Use good occupational work practice.
- Observe manufacturer's storing and handling recommendations.
- Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions.
- DO NOT allow clothing wet with material to stay in contact with skin

SUITABLE CONTAINER

Packing as supplied by manufacturer. Plastic containers may only be used if approved for flammable liquid. Check that containers are clearly labelled and free from leaks.

For low viscosity materials (i) : Drums and jerricans must be of the non-removable head type. (ii) : Where a can is to be used as an inner package, the can must have a screwed enclosure.

For materials with a viscosity of at least 2680 cSt. (23 deg. C)

For manufactured product having a viscosity of at least 250 cSt. (23 deg. C)

Manufactured product that requires stirring before use and having a viscosity of at least 20 cSt (25 deg. C)

(i) : Removable head packaging;

(ii) : Cans with friction closures and

(iii) : low pressure tubes and cartridges may be used.

Where combination packages are used, and the inner packages are of glass, there must be sufficient inert cushioning material in contact with inner and outer packages

In addition, where inner packagings are glass and contain liquids of packing group I there must be sufficient inert absorbent to absorb any spillage, unless the outer packaging is a close fitting moulded plastic box and the substances are not incompatible with the plastic.

STORAGE INCOMPATIBILITY

Incompatible with aluminium. DO NOT heat above 49 deg. C. in aluminium equipment.

Avoid reaction with oxidising agents

Segregate from
strong oxidisers

STORAGE REQUIREMENTS

Store in original containers in approved flame-proof area.

No smoking, naked lights, heat or ignition sources.

DO NOT store in pits, depressions, basements or areas where vapours may be trapped.

Keep containers securely sealed.

Store away from incompatible materials in a cool, dry well ventilated area.

Protect containers against physical damage and check regularly for leaks.

Observe manufacturer's storing and handling recommendations.

Section 9 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

No data for SC Scent -Cutie Hand Sanitizer.

EXPOSURE STANDARDS FOR MIXTURE

"Worst Case" computer-aided prediction of vapour components/concentrations:

Composite Exposure Standard for Mixture (TWA) (mg/m³): 1614.0229 mg/m³
If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

Component	Breathing Zone ppm	Breathing Zone mg/m ³	Mixture Conc: (%)
propylene glycol	28.38	89.6679	5
ethanol	810.83	1524.355	85

Operations which produce a spray/mist or fume/dust, introduce particulates to the breathing zone.

If the breathing zone concentration of ANY of the components listed below is exceeded, "Worst Case" considerations deem the individual to be overexposed.

At the "Composite Exposure Standard for Mixture" (TWA) (mg/m³): 90 mg/m³

Component	Breathing Zone ppm	Breathing Zone mg/m ³	Mixture Conc (%)
triethanolamine	0	0	0

REPRODUCTIVE HEALTH GUIDELINES

Established occupational exposure limits frequently do not take into consideration reproductive end points that are clearly below the thresholds for other toxic effects. Occupational reproductive guidelines (ORGs) have been suggested as an additional standard. These have been established after a literature search for reproductive no-observed-adverse effect-level (NOAEL) and the lowest-observed-adverse-effect-level (LOAEL). In addition the US EPA's procedures for risk assessment for hazard identification and dose-response assessment as applied by NIOSH were used in the creation of such limits.

Ingredient	ORG	UF	TLV		
			Endpoint	CR	Adeq
ethanol	1880 mg/m ³	NA	NA	NA	Yes

These exposure guidelines have been derived from a screening level of risk assessment and should not be construed as unequivocally safe limits. ORGS represent an 8-hour time-weighted average unless specified otherwise.

CR = Cancer Risk/10000; UF = Uncertainty factor:

TLV believed to be adequate to protect reproductive health:

LOD: Limit of detection

Toxic endpoints have also been identified as:

D = Developmental; R = Reproductive; TC = Transplacental carcinogen

Jankovic J., Drake F.: A Screening Method for Occupational Reproductive

American Industrial Hygiene Association Journal 57: 641-649 (1996)

INGREDIENT DATA

ETHANOL:

TLV TWA: 1000 ppm A4 [ACGIH]

PEL TWA: 1000 ppm, 1900 mg/m³ [OSHA Z1]

TLV TWA: 1000 ppm, 1880 mg/m³ A4

NOTE: This substance has been classified by the ACGIH as A4 NOT classifiable as causing Cancer in humans

ES TWA: 1000 ppm, 1880 mg/m³

OES TWA: 1000 ppm, 1920 mg/m³

MAK value: 500 ppm, 960 mg/m³

MAK Category II Peak Limitation: For substances with systemic effects and with a half-life in humans of less than two hours.

Allows excursions of 2 times the MAK value, for 30 minutes (on average), four times per shift.

MAK Group C: There is no reason to fear risk of damage to the developing embryo when MAK and BAT values are observed.

MAK values, and categories and groups are those recommended within the Federal Republic of Germany

Odour Threshold Value: 49-716 ppm (detection), 101 ppm (recognition)

IDLH Level: 3300 ppm (lower explosive limit)

Eye and respiratory tract irritation do not appear to occur at exposure levels of less than 5000 ppm and the TLV-TWA is thought to provide an adequate margin of safety against such effects.

Experiments in man show that inhalation of 1000 ppm caused slight symptoms of poisoning and 5000 ppm caused strong stupor and morbid sleepiness.

Subjects exposed to 5000 ppm to 10000 ppm experienced smarting of the eyes and nose and coughing. Symptoms disappeared within minutes.

Inhalation also causes local irritating effects to the eyes and upper respiratory tract, headaches, sensation of heat intraocular tension, stupor, fatigue and a need to sleep.

At 15000 ppm there was continuous lachrymation and coughing.

PROPYLENE GLYCOL:

ES TWA: 150 ppm, 474 mg/m³ (total vapour and particulates)

ES TWA: 10 mg/m³ (particulates only)

OES TWA: 150 ppm, 474 mg/m³ (total, vapour and particulates)

OES TWA: 10 mg/m³ (particulates)

Saturated vapour concentration @ 20 deg C.= 65.8 ppm, 204.6 mg/m³; i.e higher concentrations can only occur as aerosols or at higher temperatures.

Odour Threshold: Practically odourless.

A small number of individuals show skin irritation or sensitisation from repeated or prolonged exposure to propylene glycol. A workplace environmental exposure limit (WEEL) has been established by AIHA and is thought to be protective against systemic effects.

TRIETHANOLAMINE:

TLV TWA: 5 mg/m³ [ACGIH]

TLV TWA: 5 mg/m³

ES TWA: 5 mg/m³ sensitiser

Exposure at or below the TLV-TWA is thought to minimise the potential for skin and eye irritation, and acute effects (including liver, kidney and nerve damage) and chronic effects (including cancer and allergic contact dermatitis).

WATER:

No exposure limits set by NOHSC or ACGIH

PERSONAL PROTECTION

EYE

Safety glasses with side shields.

Chemical goggles.

Contact lenses pose a special hazard; soft lenses may absorb irritants and all lenses concentrate them. DO NOT wear contact lenses.

HANDS/FEET

Wear chemical protective gloves, eg. PVC.

Wear safety footwear or safety gumboots, eg. 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.

OTHER

Overalls.

PVC Apron.

PVC protective suit may be required if exposure severe.

Eyewash unit.

Ensure there is ready access to a safety shower.

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:

Substance

ethanol

water

BUTYL A

PE/EVAL/PE A

NEOPRENE A

NATURAL RUBBER 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.

RESPIRATOR

Respiratory protection may be required when ANY "Worst Case" vapour-phase concentration is exceeded (see Computer Prediction in "Exposure Standards").

Protection Factor	Half-Face Respirator	Full-Face Respirator
5 x ES	Air-line*	AK-2
	-	AK-PAPR-2
10 x ES	-	AK-3
10+ x ES	-	Air-line**

* - Continuous Flow; ** - Continuous-flow or positive pressure demand

^ - Full-face

The local concentration of material, quantity and conditions of use determine the type of personal protective equipment required. For further information consult site specific CHEMWATCH data (if available), or your Occupational Health and Safety Advisor.

ENGINEERING CONTROLS

For flammable liquids and flammable gases, local exhaust ventilation or a process enclosure ventilation system may be required. Ventilation equipment should be explosion-resistant

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.)

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 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.

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

Segregate from strong oxidisers

Section 11 - TOXICOLOGICAL INFORMATION

SC Scent -Cutie Hand Sanitizer

ETHANOL:

TOXICITY

Oral (rat) LD50: 7060 mg/kg
Oral (human) LDLo: 1400 mg/kg
Oral (man) TDLo: 50 mg/kg
Oral (man) TDLo: 1.40 mg/kg
Oral (woman) TDLo: 256 mg/kg/12 wks
Inhalation (rat) LC50: 20,000 ppm/10h

IRRITATION

Skin (rabbit):20 mg/24hr-moderate
Skin (rabbit):400 mg (open)-mild
Eye (rabbit):100mg/24hr-moderate
Eye (rabbit): 500 mg SEVERE

PROPYLENE GLYCOL:

TOXICITY

Oral (rat) LD50: 20000 mg/kg
Dermal (rabbit) LD50: 20800 mg/kg

IRRITATION

Skin(human):500 mg/7days mild
Skin(human):104 mg/3d Intermit Mod
Eye (rabbit): 100 mg - mild
Eye (rabbit): 500 mg/24h - mild

TRIETHANOLAMINE:

TOXICITY

Oral (rat) LD50: 8000 mg/kg
Oral (rat) LD50: 4920 ul/kg
Oral (rat) LD50: 5560 mg/kg (calc.)
Oral (rat) LD50: 4.92 ml/kg (female) *
Oral (rat) LD50: 8.57 ml/kg (male) *
Dermal (rat) LD50: >16000 mg/kg
Dermal (rabbit) LD50: 16 ml/kg *
(occluded, male or female)
Kill rate 1/5 *
Intraperitoneal (rat) LD50: 1510 mg/kg
Oral (mouse) LD50: 5846 mg/kg
Intraperitoneal (mouse) LD50: 1450 mg/kg
Oral (rabbit) LD50: 2200 mg/kg
Dermal (rabbit) LD50: >20000 mg/kg
Oral (g.pig) LD50: 2200 mg/kg

Lachrymation, diarrhoea, convulsions, urinary tract changes, changes in bladder weight, changes in testicular weight, changes in thymus weight, changes in liver weight, dermatitis after systemic exposure, kidney, ureter, bladder tumours recorded.

Equivocal tumourigen by RTECS criteria.

* Union Carbide

The substance is classified by IARC as Group 3:

NOT classifiable as to its carcinogenicity to humans.

Evidence of carcinogenicity may be inadequate or limited in animal testing.

NOTE: Substance has been shown to be mutagenic in at least one assay, or belongs to a family of chemicals producing damage or change to cellular DNA.

Limited evidence of a carcinogenic effect*.

IRRITATION

Skin (human): 15 mg/3d (int)-mild
Skin (rabbit): 560 mg/24 hr- mild
Eye (rabbit): 5.62 mg - SEVERE
Eye (rabbit): 10 mg - mild
Eye (rabbit): 0.1 ml -
minor iritis,
minor conjunctival irritation
with significant discharge;
no corneal injury *
Skin (rabbit): 4 h occluded
no irritation *

WATER:

No significant acute toxicological data identified in literature search.

Section 12 - ECOLOGICAL INFORMATION

DO NOT discharge into sewer or waterways.

Section 13 - DISPOSAL CONSIDERATIONS

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 licenced land-fill or Incineration in a licenced apparatus (after admixture with suitable combustible material)

Decontaminate empty containers. Observe all label safeguards until containers are cleaned and destroyed.

(class 6, sub1|sub2 6, Xn)

Puncture containers to prevent re-use and bury at an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

None

Hazard Class: None, None

UN/NA Number: 2[Y]E

Packing Group: 14

Labels Required:

Additional Shipping Information:

International Transport Regulations:

IMO: 1170

Section 15 - REGULATORY INFORMATION

RISK

In use, may form flammable/explosive vapour-air mixture.

Can become highly flammable in use.

Irritating to eyes and respiratory system.

Highly flammable.

Vapours potentially cause drowsiness and dizziness*.

Cumulative effects may result following exposure*.

May produce skin discomfort*.

Possible skin sensitiser*.

Inhalation and/or ingestion may produce health damage*.

* (limited evidence).

SAFETY

Do not breathe dust.

Wear eye/ face protection.

Use only in well ventilated areas.

To clean the floor and all objects contaminated by this material, use water.

Take off immediately all contaminated clothing.

In case of contact with eyes, rinse with plenty of water and contact Doctor or Poisons Information Centre.

If swallowed, IMMEDIATELY contact Doctor or Poisons Information Centre (show this container or label).

If you feel unwell contact Doctor or Poisons Information Centre (show the label if possible).

Section 16 - OTHER INFORMATION

This document is copyright. Apart from any fair dealing for the purposes of private study, research, review or criticism, as permitted under the Copyright

Act, no part may be reproduced by any process without written permission from
CHEMWATCH. TEL (+61 3) 9572 4700.

Issue Date: Wed 11-Jun-2003

Print Date: Thu 12-Jun-2003