

SARAYA ACECIDE (REAGENT 2)

Chemwatch Independent Material Safety Data Sheet

Issue Date: 2-Mar-2010

NC317ECP

CHEMWATCH 22-6269

Version No:2.0

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Section 1 - CHEMICAL PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME

SARAYA ACECIDE (REAGENT 2)

SYNONYMS

"Product Code: F350"

PRODUCT USE

■ Used according to manufacturer's directions.

SUPPLIER

Company: Saraya Australia Pty Ltd

Address:

Unit 12, 2- 4 Northumberland Drive

Caringbah

NSW, 2229

AUS

Telephone: +61 2 9542 7400

Emergency Tel: +61 2 9542 7400

Fax: 02 9542 7477

Section 2 - HAZARDS IDENTIFICATION

STATEMENT OF HAZARDOUS NATURE

NON-HAZARDOUS SUBSTANCE. NON-DANGEROUS GOODS. According to NOHSC Criteria, and ADG Code.

POISONS SCHEDULE

None

RISK

•None under normal operating conditions.

SAFETY

Safety Codes

S24

S39

S26

Safety Phrases

■ Avoid contact with skin.

■ Wear eye/ face protection.

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

Section 3 - COMPOSITION / INFORMATION ON INGREDIENTS

NAME	CAS RN	%
ethanol	64-17-5	<1
potassium hydroxide	1310-58-3	<0.5
buffer		NotSpec
stabiliser		NotSpec
chelating agent		NotSpec

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Section 4 - FIRST AID MEASURES

SWALLOWED

- - If 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 to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink.
- Seek medical advice.

EYE

- If this product comes in contact with the eyes:
- Wash out immediately 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.
- Seek medical attention without delay; 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 skin or hair contact occurs:
- Flush skin and hair with running water (and soap if available).
- Seek medical attention in event of irritation.

INHALED

- - If fumes or combustion products are inhaled remove from contaminated area.
- Other measures are usually unnecessary.

NOTES TO PHYSICIAN

- Treat symptomatically.

Section 5 - 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.
- Wear breathing apparatus plus protective gloves.
- Prevent, by any means available, spillage from entering drains or water courses.
- Use water delivered as a fine spray to control fire and cool adjacent 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.

FIRE/EXPLOSION HAZARD

- - Combustible.
- Slight fire hazard when exposed to heat or flame.
- Heating may cause expansion or decomposition leading to violent rupture of containers.
- On combustion, may emit toxic fumes of carbon monoxide (CO).

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Section 5 - FIRE FIGHTING MEASURES

- May emit acrid smoke.
 - Mists containing combustible materials may be explosive.
- Decomposes on heating and produces toxic fumes of: carbon dioxide (CO₂).

FIRE INCOMPATIBILITY

- None known.

HAZCHEM

None

PERSONAL PROTECTION

Glasses:

Chemical goggles.

Gloves:

PVC chemical resistant type.

Respirator:

Type A Filter of sufficient capacity

Section 6 - 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 spill with sand, earth, inert material or vermiculite.
- Wipe up.
- Place in a suitable, labelled container for waste disposal.

MAJOR SPILLS

- Remove all ignition sources.
- Minor hazard.
- Clear area of personnel.
 - Alert Fire Brigade and tell them location and nature of hazard.
 - Control personal contact by using protective equipment as required.
 - Prevent spillage from entering drains or water ways.
 - Contain spill with sand, earth or vermiculite.
 - Collect recoverable product into labelled containers for recycling.
 - Absorb remaining product with sand, earth or vermiculite and place in appropriate containers for disposal.
 - Wash area and prevent runoff into drains or waterways.
 - If contamination of drains or waterways occurs, advise emergency services.

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

Section 7 - HANDLING AND STORAGE

PROCEDURE FOR HANDLING

- - DO NOT allow clothing wet with material to stay in contact with skin.
- Remove all ignition sources.
- Limit all unnecessary personal contact.
 - Wear protective clothing when risk of exposure occurs.
 - Use in a well-ventilated area.
 - When handling DO NOT eat, drink or smoke.
 - Always wash hands with soap and water after handling.
 - Avoid physical damage to containers.
 - Use good occupational work practice.
 - Observe manufacturer's storing and handling recommendations.

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Section 7 - HANDLING AND STORAGE

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.

STORAGE REQUIREMENTS

- - Store in original containers.
 - Keep containers securely sealed.
 - Store in a cool, dry, well-ventilated area.
 - Store away from incompatible materials and foodstuff containers.
 - Protect containers against physical damage and check regularly for leaks.
 - Observe manufacturer's storing and handling recommendations.
- When stored at high temperature, the product may become turbid and cloudy. If this occurs, return solution to room temperature to improve solubility.

Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE CONTROLS

Source	Material	TWA ppm	TWA mg/m ³	Peak mg/m ³
Australia Exposure Standards	ethanol (Ethyl alcohol)	1000	1880	
Australia Exposure Standards	potassium hydroxide (Potassium hydroxide)			2

EMERGENCY EXPOSURE LIMITS

Material	Revised IDLH Value (mg/m ³)	Revised IDLH Value (ppm)
ethanol		3, 300 [LEL]

NOTES

Values marked LEL indicate that the IDLH was based on 10% of the lower explosive limit for safety considerations even though the relevant toxicological data indicated that irreversible health effects or impairment of escape existed only at higher concentrations.

MATERIAL DATA

SARAYA ACECIDE (REAGENT 2):

- None assigned. Refer to individual constituents.

ETHANOL:

■ Sensory irritants are chemicals that produce temporary and undesirable side-effects on the eyes, nose or throat. Historically occupational exposure standards for these irritants have been based on observation of workers' responses to various airborne concentrations. Present day expectations require that nearly every individual should be protected against even minor sensory irritation and exposure standards are established using uncertainty factors or safety factors of 5 to 10 or more. On occasion animal no-observable-effect-levels (NOEL) are used to determine these limits where human results are unavailable. An additional approach, typically used by the TLV committee (USA) in determining respiratory standards for this group of chemicals, has been to assign ceiling values (TLV C) to rapidly acting irritants and to assign short-term exposure limits (TLV STELs) when the weight of evidence from irritation, bioaccumulation and other endpoints combine to warrant such a limit. In contrast the MAK Commission (Germany) uses a five-category system based on intensive odour, local irritation, and elimination half-life. However this system is being replaced to be consistent with the European Union (EU) Scientific Committee for Occupational Exposure Limits (SCOEL); this is more closely allied to that of the USA.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

OSHA (USA) concluded that exposure to sensory irritants can:

- cause inflammation
- cause increased susceptibility to other irritants and infectious agents
- lead to permanent injury or dysfunction
- permit greater absorption of hazardous substances and
- acclimate the worker to the irritant warning properties of these substances thus increasing the risk of overexposure.

For ethanol:

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

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.

POTASSIUM HYDROXIDE:

- for potassium hydroxide:

The TLV-TWA is protective against respiratory tract irritation produced at higher concentrations.

PERSONAL PROTECTION

EYE

- - 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 lens 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].

HANDS/FEET

- Wear chemical protective gloves, eg. PVC.
- Wear safety footwear.

OTHER

- - Overalls.
- Eyewash unit.

RESPIRATOR

■ 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.

Breathing Zone Level ppm (volume)	Maximum Protection Factor	Half- face Respirator	Full- Face Respirator
1000	10	A- AUS	-
1000	50	-	A- AUS
5000	50	Airline *	-
5000	100	-	A- 2
10000	100	-	A- 3
	100+		Airline**

* - Continuous Flow

** - Continuous-flow or positive pressure demand.

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Section 8 - EXPOSURE CONTROLS / PERSONAL PROTECTION

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

■ 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.

Section 9 - PHYSICAL AND CHEMICAL PROPERTIES

APPEARANCE

Clear colourless to pale yellow liquid with faint, characteristic odour.

PHYSICAL PROPERTIES

Liquid.

State	Liquid	Molecular Weight	Not Applicable
Melting Range (°C)	Not Available	Viscosity	Not Available
Boiling Range (°C)	Not Available	Solubility in water (g/L)	Not Available
Flash Point (°C)	Not Available	pH (1% solution)	Not Available
Decomposition Temp (°C)	Not Available	pH (as supplied)	8.5- 9.5
Autoignition Temp (°C)	Not Available	Vapour Pressure (kPa)	Not Available
Upper Explosive Limit (%)	Not Available	Specific Gravity (water=1)	1.089
Lower Explosive Limit (%)	Not Available	Relative Vapour Density (air=1)	Not Available
Volatile Component (%vol)	Not Available	Evaporation Rate	Not Available

Section 10 - CHEMICAL STABILITY AND REACTIVITY INFORMATION

CONDITIONS CONTRIBUTING TO INSTABILITY

■ - Presence of incompatible materials.

- Product is considered stable.

- Hazardous polymerisation will not occur.

For incompatible materials - refer to Section 7 - Handling and Storage.

Section 11 - TOXICOLOGICAL INFORMATION

POTENTIAL HEALTH EFFECTS

ACUTE HEALTH EFFECTS

SWALLOWED

■ 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. The material may still be damaging to the health of the individual, following ingestion, especially where pre-existing organ (eg. liver, kidney) damage is evident. Present definitions of harmful or toxic substances are generally based on doses producing mortality rather than those producing morbidity (disease, ill-health). Gastrointestinal tract discomfort may produce nausea and vomiting. In an occupational setting however, ingestion of insignificant quantities is not thought to be cause for concern.

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Section 11 - TOXICOLOGICAL INFORMATION

EYE

- There is some evidence to suggest that this material can cause eye irritation and damage in some persons.

SKIN

- There is some evidence to suggest that this material can cause inflammation of the skin on contact in some persons.

INHALED

- Not normally a hazard due to non-volatile nature of product.

CHRONIC HEALTH EFFECTS

- Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.

TOXICITY AND IRRITATION

- Not available. Refer to individual constituents.

ETHANOL:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

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
Inhalation (rat) LC50: 64000 ppm/4h

- 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.

IRRITATION

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

POTASSIUM HYDROXIDE:

- unless otherwise specified data extracted from RTECS - Register of Toxic Effects of Chemical Substances.

TOXICITY

Oral (rat) LD50: 273 mg/kg

IRRITATION

Skin (human): 50 mg/24h SEVERE
Skin (rabbit): 50 mg/24h SEVERE
Eye (rabbit):1mg/24h rinse- Moderate

- 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. A reversible airflow pattern, on spirometry, with the presence of moderate to severe bronchial hyperreactivity on methacholine challenge testing and the lack of minimal lymphocytic inflammation, without eosinophilia, have also been included in the criteria for diagnosis of RADS. RADS (or asthma) following an irritating inhalation is an infrequent disorder with rates related to the concentration of and duration of exposure to the irritating substance. Industrial bronchitis, on the other hand, is a disorder that occurs as result of exposure due to high concentrations of irritating substance (often particulate in nature) and is completely reversible after exposure ceases. The disorder is characterised by dyspnea, cough and mucus production. The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to irritants may produce conjunctivitis.

The material may cause severe 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. Repeated exposures may produce severe ulceration.

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Section 11 - TOXICOLOGICAL INFORMATION

CARCINOGEN

Ethanol in alcoholic beverages	International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs	Group	1
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Section 12 - ECOLOGICAL INFORMATION

Refer to data for ingredients, which follows:

ETHANOL:

POTASSIUM HYDROXIDE:

SARAYA ACECIDE (REAGENT 2):

- DO NOT discharge into sewer or waterways.

SARAYA ACECIDE (REAGENT 2):

ETHANOL:

■ Fish LC50 (96hr.) (mg/l):	13480
■ Algae IC50 (72hr.) (mg/l):	1450
■ log Kow (Sangster 1997):	- 0.3
■ BOD5:	63%
■ ThOD:	2.1
■ Half- life Soil - High (hours):	24
■ Half- life Soil - Low (hours):	2.6
■ Half- life Air - High (hours):	122
■ Half- life Air - Low (hours):	12.2
■ Half- life Surface water - High (hours):	26
■ Half- life Surface water - Low (hours):	6.5
■ Half- life Ground water - High (hours):	52
■ Half- life Ground water - Low (hours):	13
■ Aqueous biodegradation - Aerobic - High (hours):	26
■ Aqueous biodegradation - Aerobic - Low (hours):	6.5
■ Aqueous biodegradation - Anaerobic - High (hours):	104
■ Aqueous biodegradation - Anaerobic - Low (hours):	26
■ Aqueous biodegradation - Removal secondary treatment - High (hours):	67%
■ Photooxidation half- life water - High (hours):	3.20E+05
■ Photooxidation half- life water - Low (hours):	8020
■ Photooxidation half- life air - High (hours):	122
■ Photooxidation half- life air - Low (hours):	12.2

- When ethanol is released into the soil it readily and quickly biodegrades but may leach into ground water; most is lost by evaporation. When released into water the material readily evaporates and is biodegradable. Ethanol does not bioaccumulate to an appreciable extent.

The material is readily degraded by reaction with photochemically produced hydroxy radicals; release into air will result in photodegradation and wet deposition.

Environmental Fate:

TERRESTRIAL FATE: An estimated Koc value of 1 indicates that ethanol is expected to have very high mobility in soil. Volatilisation of ethanol from moist soil surfaces is expected to be an important fate process given a Henry's Law constant of 5×10^{-6} atm-m³/mole. The potential for volatilization of ethanol from dry soil surfaces may exist based upon an extrapolated vapor pressure of 59.3 mm Hg. Biodegradation is expected to be an important fate process for ethanol based on half-lives on the order of a few days for ethanol in sandy soil/groundwater microcosms.

AQUATIC FATE: An estimated Koc value of 1 indicates that ethanol is not expected to adsorb to suspended solids and sediment. Volatilisation from water surfaces is expected based upon a Henry's Law constant of 5×10^{-6} atm-m³/mole. Using this Henry's Law constant and an estimation method, volatilisation half-lives for a

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Section 12 - ECOLOGICAL INFORMATION

model river and model lake are 3 and 39 days, respectively. An estimated BCF= 3, from a log Kow of -0.31 suggests bioconcentration in aquatic organisms is low. Hydrolysis and photolysis in sunlit surface waters is not expected to be an important environmental fate process for ethanol since this compound lacks functional groups that hydrolyse or absorb light under environmentally relevant conditions. Ethanol was degraded with half-lives on the order of a few days in aquatic studies conducted using microcosms constructed with a low organic sandy soil and groundwater, indicating it is unlikely to be persistent in aquatic environments(8).
ATMOSPHERIC FATE: Ethanol, which has an extrapolated vapor pressure of 59.3 mm Hg at 25 deg C, is expected to exist solely as a vapor in the ambient atmosphere. Vapor-phase ethanol is degraded in the atmosphere by reaction with photochemically-produced hydroxyl radicals; the half-life for this reaction in air is estimated to be 5 days, calculated from its rate constant of 3.3×10^{-12} m³/molecule-sec at 25 deg C.

Ecotoxicity:

log Kow : -0.31- -0.32

Half-life (hr) air : 144

Half-life (hr) H₂O surface water : 144

Henry's atm m³ /mol: 6.29E-06

BOD 5 if unstated: 0.93-1.67,63%

COD : 1.99-2.11,97%

ThOD : 2.1.

POTASSIUM HYDROXIDE:

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

Ecotoxicity

Ingredient	Persistence: Water/Soil	Persistence: Air	Bioaccumulation	Mobility
ethanol	LOW	MED	LOW	HIGH
potassium hydroxide			LOW	

Section 13 - DISPOSAL CONSIDERATIONS

- - Recycle wherever possible or consult manufacturer for recycling options.
- Consult State Land Waste Management Authority for disposal.
- Bury residue in an authorised landfill.
- Recycle containers if possible, or dispose of in an authorised landfill.

Section 14 - TRANSPORTATION INFORMATION

HAZCHEM:

- None (ADG7)

NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS: ADG7, UN, IATA, IMDG

Section 15 - REGULATORY INFORMATION

POISONS SCHEDULE

None

REGULATIONS

Regulations for ingredients

continued...

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Section 15 - REGULATORY INFORMATION

ethanol (CAS: 64-17-5) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Illicit Drug Reagents/Essential Chemicals - Category III", "Australia Inventory of Chemical Substances (AICS)", "Australia National Pollutant Inventory", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 18: List of products to which the Code does not apply", "IMO MARPOL 73/78 (Annex II) - List of Other Liquid Substances", "IMO Provisional Categorization of Liquid Substances - List 2: Pollutant only mixtures containing at least 99% by weight of components already assessed by IMO", "International Agency for Research on Cancer (IARC) - Agents Reviewed by the IARC Monographs", "International Air Transport Association (IATA) Dangerous Goods Regulations", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

potassium hydroxide (CAS: 1310-58-3) is found on the following regulatory lists;

"Australia Exposure Standards", "Australia Hazardous Substances", "Australia High Volume Industrial Chemical List (HVICL)", "Australia Inventory of Chemical Substances (AICS)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix E (Part 2)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Appendix F (Part 3)", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 5", "Australia Standard for the Uniform Scheduling of Drugs and Poisons (SUSDP) - Schedule 6", "CODEX General Standard for Food Additives (GSFA) - Additives Permitted for Use in Food in General, Unless Otherwise Specified, in Accordance with GMP", "GESAMP/EHS Composite List - GESAMP Hazard Profiles", "IMO IBC Code Chapter 17: Summary of minimum requirements", "International Council of Chemical Associations (ICCA) - High Production Volume List", "OECD Representative List of High Production Volume (HPV) Chemicals"

No data for Saraya Acecide (Reagent 2) (CW: 22-6269)

Section 16 - OTHER INFORMATION

REPRODUCTIVE HEALTH GUIDELINES

Ingredient	ORG	UF	Endpoint	CR	Adeq TLV
ethanol	1880 mg/m3	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).

■ 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.

A list of reference resources used to assist the committee may be found at:

www.chemwatch.net/references.

■ The (M)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.

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This is the end of the MSDS.