Doc type:	**Safety Data Sheet**		
Title:	**Cancer Council Repel Sunscreen SPF50+**		
Doc. No.:		Rev. No.:	

1. Identification	
Manufacturer/distributor:	Vitality Brands Worldwide Pty Ltd
Address:	Suite 2.02, Building 10, 658 Church St
	Richmond VIC 3121 Australia
Emergency Telephone No:	+613 1300 364 515
Facsimile No:	+613 9882 6058
Product Name:	Cancer Council Repel Sunscreen SPF50+
AUST L:	299872
Recommended Use:	Sunscreen
Restrictions on Use:	Not available
CAS No.:	Not applicable

2. Hazards Identification	
Hazardous Classification:	This material is classified as Non-dangerous goods by the criteria of the Australian Dangerous Goods Code (ADG code). This material is classified as a non-hazardous substance according to criteria of Safe Work Australian Hazardous Information System (HSIS).
Pictograms:	Not applicable
Signal Word:	Not applicable
Hazardous Statement:	Causes serious eye irritation Harmful to aquatic life with long lasting effects. H412
Precautionary Statement:	P333 If irritation occurs rinse thoroughly with water, discontinue use immediately seek medical advice if required. Keep Reach out of Children Read Label before Use Avoid contact with eyes and broken or damaged skin. Not suitable for children under 6 months of age.
Other Hazards:	

3. Composition and information on ingredients

Chemical Name	CAS Number	Proportion	Risk
3-(4-Methylbenzylidene)camphor	36861-47-9	<10%	-
Cocoamine.ethoxylated	61791-14-8	<10%	-
2-ethylhexyl bicycloheptene dicarboximide	113-48-4	<10%	
N,N-diethyl-m-toluamide	134-62-3	<10%	

Other ingredients determined not to be hazardous	N/A		-

4. First Aid Measures

Health Effects:	
Acute – Swallowed:	If swallowed do not induce vomiting. Give water to rinse mouth. Seek medical advice
Acute – Eye:	May irritate the eyes if they come into contact with product.
Acute – Skin:	May be applied safely to skin.
Acute – Inhaled:	Product if used as directed is unlikely to be inhaled. If inhaled seek medical advice.
Chronic:	Not available
First Aid:	
Swallowed:	If swallowed do not induce vomiting. Give water to rinse mouth. Seek medical advice
Eye:	May irritate the eyes if they come into contact with product. Flush with water for 20 minutes. Seek medical advice.
Skin:	May be applied safely to skin. If an irritation or rash develops discontinue use.
Inhaled:	Product if used as directed is unlikely to be inhaled. If inhaled seek medical advice.
Contact Point:	Contact the Poisons Information Centre on 13 11 26.
Advice to Doctor:	Treat symptomatically.

5. Fire-Fighting Measures

Flash Point:	Not available
Extinguishing Media:	No restriction on media used
Firefighting:	Alert Fire brigade and tell them location and nature of Hazard
Fire/explosion Hazard:	None
Fire Incompatibility:	Not available
Hazchem:	None
Personal Protective Equipment:	None
Contact Point:	Not available

6. Accidental Release Measures

Emergency Procedures:	Not available
Minor Spills:	Slippery when spilt clean up immediately , may be washed away with water
Major Spills:	Slippery when spilt clean up immediately, may be washed away with water, prevent spillage from entering drains, sewers or water courses

7. Handling and Storage

Procedure for Handling:	Avoid contact with eyes. May be irritating to eyes. When handling do not eat, drink or smoke
Unsuitable Packaging Materials:	Not available
Special Procedures:	Not available
Storage:	Store below 30°C in a cool, dark place.
Other information:	Not available
8. Exposure Controls/Personal Protection	
Exposure Controls:	The product does not contain any relevant quantities of material with critical values that have to be monitored at the workplace.
Emergency Exposure Limits:	The product does not contain any relevant quantities of material with critical values that have to be monitored at the workplace
Personal Protection:	Not applicable
9. Physical and Chemical Properties	
Physical State:	Liquid
Specific Gravity:	Not Available
Solubility:	Miscible
Boiling Point/Melting Point:	Not available
Vapour Pressure:	Not available
Flammability Limits:	Not applicable
Other Properties:	pH: 6.0-7.0
10. Chemical Stability and Reactivity Information	
Conditions Contributing to Instability:	Chemical stability: Not Available Conditions to avoid: Not available Incompatible materials: Not available Hazardous decomposition products: Not available Hazardous reactions: Not available
11. Toxicological Information	
Toxicology Tests:	Not adverse health effects expected if the product is handled in accordance with the Safety Data Sheet and the product label. Symptoms or effects that may arise if the product is mishandled are: Swallowed: If swallowed do not induce vomiting. Give water to rinse mouth. Seek medical advice Eye contact: May irritate the eyes if they come into contact with product. Skin contact: May be applied safely to skin. Inhalation: Product if used as directed is unlikely to be inhaled. If inhaled seek medical advice.

	Toxicity	Irritation	
3-(4-Methylbenzylidene)camphor	Dermal(rat) LD50:>10000 mg/Kg Oral(rat) LD50:>10000 mg/Kg	Eye: No adverse effect observed Skin: No adverse effect observed	
Cocoamine,ethoxylated	Oral(rat) LD50:750 mg/Kg	Eye(rabbit):100 mg-moderate	
2-ethylhexyl bicycloheptene dicarboximide	Dermal(rat) LD50:>450 mg/Kg Oral(rat) LD50:>2800 mg/Kg	Eye: No adverse effect observed Skin: No adverse effect observed	
N,N-diethyl-m-toluamide	Dermal(rat) LD50:>5000 mg/Kg Oral(rat) LD50:>1800 mg/Kg	Eye(rabbit):10mg-moderate Eye(Rabbit):100mg Skin(Rabbit): 500mg-moderate	

3-(4-METHYLBENZYLIDENE)CAMPHOR	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. Other allergic skin reactions, e.g. contact urticaria, involve antibody-mediated immune reactions. The significance of the contact allergen is not simply determined by its sensitisation potential: the distribution of the substance and the opportunities for contact with it are equally important. A weakly sensitising substance which is widely distributed can be a more important allergen than one with stronger sensitising potential with which few individuals come into contact. From a clinical point of view, substances are noteworthy if they produce an allergic test reaction in more than 1% of the persons tested. Animal testing shows that 3-(4Φ-methylbenzylidene)camphor [abbreviated to MBC] can affect thyroid gland function. It has not been shown to cause skin irritation or sensitisation, birth defects or genetic damage. However, as thyroid disturbances such as goitre are in general associated with an increased risk of thyroid cancer, the use of 4-MBC should be of concern and any thyroid disturbances should be treated with great caution.
COCOAMINE, ETHOXYLATED	No significant acute toxicological data identified in literature search. The chemicals in the Fatty Nitrogen Derived (FND) Amides are generally similar in terms of physical and chemical properties, environmental fate and toxicity. Its low acute oral toxicity is well established across all subcategories by the available data and show no apparent organ specific toxicity, mutation, reproductive or developmental defects. Asthma-like symptoms may continue for months or even years after exposure to the material ends. This may be due to a non-allergic condition known as reactive airways dysfunction syndrome (RADS) which can occur after exposure to high levels of highly irritating compound. Main criteria for diagnosing RADS include the absence of previous airways disease in a non-atopic individual, with sudden onset of persistent asthma-like symptoms within minutes to hours of a documented exposure to the irritant. Other criteria for diagnosis of RADS include a reversible airflow pattern on lung function tests, moderate to severe bronchial hyperreactivity on methacholine challenge testing, and the lack of minimal lymphocytic inflammation, without eosinophilia. 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. On the other hand, industrial bronchitis is a disorder that occurs as a result of exposure due to high concentrations of irritating substance (often particles) and is completely reversible after exposure ceases. The disorder is characterized by difficulty breathing, cough and mucus production. Laboratory testing shows that the fatty acid amide, cocoamide DEA, causes occupational allergic contact dermatitis, and that allergy to this substance is becoming more common. Alkanolamides are manufactured by condensation of diethanolamine and the methyl ester of long chain fatty acids.
2-ETHYLHEXYL BICYCLOHEPTENE DICARBOXIMIDE	For 2-ethylhexyl (or N-octyl) bicycloheptene dicarboximide (MGK-264): The dermal absorption factor of MGK-264 is approximately 10%. Animal testing showed that it can cause changes to cells of the airway. It is not toxic to the immune system or nervous system. MGK-264 affects the liver cells and causes benign tumours of the liver and thyroid, and has been identified as possibly causing cancer in humans. At higher doses, MGK-264 may reduce viability of offspring. It did not affect reproductive performance. It is of low concern regarding mutations or genetic toxicity. It appears to be absorbed and excreted with little breakdown product retained.
N,N-DIETHYL-M-TOLUAMIDE	For N,N-diethyl-m-toluamide (Deet) **Acute toxicity:** Different preparations of Deet with different proportions of the m-isomer produced different oral LD50s. Rats killed by dosages in the LD50 range showed lacrimation, chromodacryorrhea, depression, prostration, tremors, and asphyxial convulsions. Respiratory failure usually preceded cardiac failure. In rabbits, an intravenous dosage of 75 mg/kg was rapidly fatal, but 50 mg/kg was not. Five doses at the rate of 25 mg/kg/day produced no cumulative effect, except for injury of the intima of some veins used for injection. Single dermal applications to rabbits at rates of 2 or 4 ml/kg produced no systemic effect, but did produce mild to moderate erythema. Repeated dermal application of 50% solutions for 13

weeks at the rate of 2 ml/kg/day produced no evidence of systemic toxicity but did produce desquamation, coriaceousness, dryness, and fissuring in the same species. Except for some scarring, these lesions cleared within 3 weeks. Instillation of Deet into the eyes of rabbits produced mild to moderate edema of the nictitating membrane, lacrimation, conjunctivitis, and some corneal injury, as revealed by fluorescein staining. After 5 days, all eyes appeared normal. No sensitisation was seen in guinea pigs .

Animals topically exposed to Deet have developed dermal and ocular reactions. Dermal effects including erythema, desquamation and scarring in rabbits and profuse sweating, irritation and exfoliation in horses have been reported following repeated applications of Deet at concentrations of 50 percent or greater. Direct ocular application of either diluted (30 or 40 percent Deet) or undiluted Deet in rabbits has produced edema, tearing, conjunctivitis, pus and clouding in the eyes.

Repeated dermal application to horses produced hypersteatosis, an overactivity of the selacious glands, when the solution of Deet was 15% or higher.

Dermal application in humans of insect repellents containing Deet can produce a variety of skin reactions in humans. Cases of localized skin irritation, large painful blisters and permanent scarring of skin at the crease of the elbow have been reported in soldiers who applied solutions of 50 or 75 percent Deet. Results from questionnaire surveys conducted by the National Institute for Occupational Safety and Health (NIOSH) among Everglades National Park Employees indicated a variety of dermal reactions including rashes, irritation of skin and mucous membranes, and numb or burning sensations of the lips among park workers who were highly exposed to Deet-containing repellents. Urticaria or dermatitis, resulting from topical Deet exposure has been noted in both children and adults. In one instance involving only limited Deet exposure, the urticaria was accompanied by an anaphylactic reaction .

Controlled human exposure studies using 50 or 75 percent Deet have reproduced many of the dermal effects noted in field studies. The U.S. Army conducted an investigation in volunteers using 75 percent Deet applied to the upper arm and elbow's crease. Of the 77 volunteers, 37 (48%) had severe dermal reactions at the crease of the elbow. No dermal reactions were observed on the upper arm or in the control group of men tested with ethanol solvent alone.

Several cases of toxic encephalopathy associated with the use of Deet in children have been reported in the medical literature. The first reported case involved a 3.5 year old girl whose body, bedclothes and bedding were sprayed each night for two weeks with an insect repellent containing 15 percent Deet. Since then, five additional cases of toxic encephalopathy have been temporally associated with the use of Deet products in children, all of whom were females . The toxic encephalopathy was characterised by agitation, weakness, disorientation, ataxia, seizures, coma and in three cases resulted in death. Autopsies conducted on two fatalities indicated oedema of the brain, with one case presenting necrotic lesions in the cerebellum and spinal cord and an enlarged liver accompanied by microscopic changes. One child was reported to be heterozygous for ornithine carbamoyl transferase deficiency (a sex linked enzyme deficiency which may produce effects similar to those reported above) and it has been hypothesised that children with this enzyme disorder may be at greater risk of adverse reactions to Deet. This enzyme deficiency which usually causes infant death in males is of variable severity in females. Accidental and deliberate ingestion of Deet-containing products has produced neurotoxic effects similar to those described following dermal exposure .

Generalised seizures have also been temporally associated with the use of Deet-containing insect repellent on skin . These cases differ from those described above in that they involved males (four boys aged 3-7 years and one 29-year-old adult), had few associated neurotoxic effects and resolved rapidly. Lower exposure to Deet in these males (four of five males had either one or two dermal applications) may have accounted for the effects being less severe than in females. That the majority of identified neurotoxic cases involved children raises concerns that this subpopulation is at greater risk of adverse reaction following exposure to Deet than are adults.

Signs and symptoms of more subtle neurotoxicity have also been associated with extensive dermal application of Deet in adults. Questionnaire results indicate that Everglades National Park employees having extensive Deet exposure were more likely to have insomnia, mood disturbances and impaired cognitive function than were lesser exposed co-workers. A young male who repeatedly applied Deet to his skin prior to spending prolonged periods in a sauna was reported to develop acute manic psychosis characterized by aggressive behavior, delusions and hyperactivity.

Either o-DET or p-DET, or both occur as impurities in commercial m-DET (Deet). A thorough study of the o-and p-isomers showed that the o-isomer is slightly more toxic than the others (oral LD50 1,210 mg/kg in rats). However, no alarming difference was found, and it was concluded that the presence of 5% of o-DET or p-DET as impurities in the

Chronic toxicity: When rats were fed Deet at a dietary level of 10,000 ppm for about 200 days, their growth rate was decreased without a decrease in food intake. There was a significant increase in the relative weight of the testes and liver in males, of the liver and spleen in females, and the kidneys of both males and females. Some of these changes were seen in lesser degree at a dietary level of 1,000 ppm. No gross or significant histological changes were seen at any dietary level and no changes of any kind were noted at 100 ppm or 500 ppm (about 25 mg/kg/day).

Essentially identical results were found in other subacute dermal and feeding studies each carried out on rats, rabbits, and dogs. In these oral studies, 2,000 ppm proved to be a no-effect-level. Oral administration of Deet to dogs at rates of 100 and 300 mg/kg/day caused tremor and hyperactivity and occasional vomiting, but no other effects. Blood studies (hemoglobin, haematocrit, sedimentation rate, platelet counts, total and differential white cell counts) on dogs receiving 300 mg/kg orally or dermally or on rabbits receiving 300 mg/kg dermally revealed no effect on the haematopoietic system. Gross and microscopic examination of the organs of all three species revealed only slight kidney damage in rabbits typical of that associated with burns of the skin. Thirteen other organs, including liver, spleen, and bone marrow, were normal in the three species .

No systemic toxicity was observed in rats exposed 8 hours/day, 5 days/week for 7 weeks to air saturated with Deet. No toxic effects were observed in rats exposed for 6 hours to an aerosol of Deet. No gross or significant histological changes were seen .

Organ Toxicity: Hypertrophy of the kidneys and liver and effects of mild central nervous system stimulation including tremors and hyperactivity were noted in animals following repeated exposure. Significant testicular hypertrophy was observed in male rats repeatedly fed a diet containing from 48 to 531 mg/kg/day of Dee

Reproductive Effects: When Deet was applied to the skin of rats at the rate of 1,000 mg/kg/day throughout pregnancy, implantation was reduced significantly. Prenatal mortality was 34.1%, compared with 20.9% in the control. Mortality between birth and weaning was 44.0%, compared to 15.7% in the control. Injury was less (but probably significant) at a dosage of 100 mg/kg/day throughout pregnancy.

Teratogenic Effects: A dermal teratology study was conducted on rabbits. Groups of 20 pregnant rabbits received daily dermal applications of 0, 50, 100, 500, 1000, or 5000 mg Deet/kg/day in ethanol on shaved backs from day 0 through day 29 of gestation. There were no significant differences between control and treated animals with respect to the fertility index, number of implantations per animal, or number of fetuses per animal. In addition, treatment did not change fetal weight, fetal length or placental weights and no increases in the incidence of skeletal or soft tissue anomalies were observed in treated groups when compared with untreated controls. This study demonstrated that Deet has no teratogenic or embryotoxic effects in rabbits exposed dermally to technical Deet.

An additional supplementary teratology study was conducted on rats. Groups of 20 pregnant rats were daily administered 10 ml of peanut oil containing 0, 8, 20 or 80 mg/kg/Deet by gavage from day 5 through day 15 of gestation. No significant differences were reported between control and treated mothers with respect to fertility, fetuses per litter, foetal weight or fetal survival. However, the study did show decreases in number of implantation sites per dam and number of fetuses per animal. In addition, a related increase was observed in the number of resorptions per dam

Carcinogenicity: Researchers fed Deet to male and female rats in the diet for two years at doses of 10, 30, or 100 mg/kg/day, and 30, 100, or 400 mg/kg/day, respectively. Researchers fed mice 250, 500, or 1,000 mg/kg/day for 18 months, and dogs 30, 100, or 400 mg/kg/day. No specific target organ toxicity or oncogenicity was observed in any of the animals.Researchers often use studies designed to test for mutagenicity to screen chemicals for carcinogenicity. Sufficient evidence indicates that DEET does not have significant potential for mutagenicity

Fate in Humans and Animals: Deet is absorbed promptly from the skin and distributed to all organs including the brain and the foetus. The compound is excreted in the milk but primarily in the urine

Reproductive effector in rats

	Cocoamine,ethoxylated and N,N-diethyl-m-toluamide: The material may produce moderate eye irritation leading to inflammation. Repeated or prolonged exposure to infants may produce conjunctivitis 2-ethylhexyl bicycloheptene dicarboximide and N,N-diethyl-m-toluamide: 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.
Carcinogenic Effect:	Not available

12. Ecological Information

Ecotoxicity:

	Test Duration	Species	Value	Source
3-(4-Methylbenzylidene)camphor	96 48 96 504	Fish Crustacea Algae or other aquatic plants Crustacea	0.180mg/L 0.56mg/L 0.155mg/L 0.02mg/L	3 2 3 2
Cocoamine,ethoxylated	96 48 96 504	Fish Crustacea Algae or other aquatic plants Crustacea	0.1mg/L 0.17mg/L 0.107mg/L 0.1mg/L	2 2 2 2
2-ethylhexyl bicycloheptene dicarboximide	96 48 96 504	Fish Crustacea Algae or other aquatic plants Crustacea	1.4mg/L 2.3mg/L >4.38mg/L <0.077mg/L	4 4 2 2
N,N-diethyl-m-toluamide	96 48 96	Fish Crustacea Algae or other aquatic plants	20.983mg/L 75mg/L <0.077mg/L	3 4 3

Aquatic toxicity: Refer to above table

Persistence and degradability:

	Persistence: Water/soil	Persistence: Air
3-(4-Methylbenzylidene)camphor	High	High
2-ethylhexyl bicycloheptene dicarboximide	High	High
N,N-diethyl-m-toluamide	High	High

bio accumulative Potential:

	Bioaccumulation
3-(4-Methylbenzylidene)camphor	High
2-ethylhexyl bicycloheptene dicarboximide	Low
N,N-diethyl-m-toluamide	Low

Mobility in Soil:

	Mobility
3-(4-Methylbenzylidene)camphor	Low
2-ethylhexyl bicycloheptene dicarboximide	Low
N,N-diethyl-m-toluamide	Low

13. Disposal Considerations

This material may be recycled if unused, or if it has not been contained so as to make it unsuitable for its intended use. If it has been contaminated, it may be possible to reclaim the product filtration, distillation or some other means. Shelf life consideration must also be applied in making decisions of this type. Note that the properties of the 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

. In all cases disposable to sewer maybe subjected to local law and regulations and these should be considered first.

. When in doubt contact the responsible authority.

. Recycle wherever possible

. Consult manufacture for recycling option or consult local or regional waste management authority for disposable if not suitable treatment or disposable facility can be identified.

. Disposable of by: Burial in a landfill specifically licensed to accept chemical or pharmaceutical wastes or incineration in a licensed apparatus (after admixture with suitable combustible material).

. Decontaminated empty containers. Observe all label safeguard until containers are cleaned and destroyed.

14. Transportation Information

Transportation:	Road and Rail Transport: Not regulated for transportation of dangerous goods Marine Transport: Not regulated for transportation of dangerous goods Air Transport: Not regulated for transportation of dangerous goods
U/N Number:	Not applicable

Proper Shipping Name:	Not applicable
DG Class/Subsidiary Risk:	Not applicable
Packaging Group:	Not applicable
Hazchem Code:	Not applicable
Special Precautions:	Not applicable

Maritime Transportation (IMCD)		**Air Transportation (IATA DG Reg 55th Ed. 2014)**	
IMCD:	Not applicable	IMCD:	Not applicable
Label:	Not applicable	Label:	Not applicable
UN Number:	Not applicable	UN Number:	Not applicable
Packaging Group:	Not applicable	Packaging Group:	Not applicable
EMS Number:	Not applicable	N/A	N/A
Marine Pollutant:	Not applicable	N/A	N/A
Proper Shipping Name:	Not applicable	Proper Shipping Name:	Not applicable
Technical Shipping Name:	Not applicable	Technical Shipping Name:	Not applicable

15. Regulatory Information

Poisons Schedule:	Not applicable

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

3-(4-Methylbenzylidene)camphor ADG Code- Dangerous goods List ADG Code-List of Emergency actions codes AIGS	IATA – Dangerous goods regulations IMDG Code United nations recommendations on the transport of dangerous goods model regulations
Cocoamine,ethoxylated	
ADG Code- Dangerous goods List ADG Code-List of Emergency actions codes AIGS SUSMP- Schedule 5	IATA – Dangerous goods regulations IMDG Code United nations recommendations on the transport of dangerous goods model regulations
2-ethylhexyl bicycloheptene dicarboximide	
ADG Code- Dangerous goods List ADG Code-List of Emergency actions codes AIGS SUSMP- Schedule 5	IATA – Dangerous goods regulations IMDG Code United nations recommendations on the transport of dangerous goods model regulations
N,N-diethyl-m-toluamide	

	HCIS- Hazardous chemical AIGS	SUSMP- Schedule 5

16. Other Information

Risk Factor	Risk:
Not applicable	Not applicable

Date Prepared:	22 June 2022
Revision date:	June 2027

The information contained herein is accurate to the best of our knowledge. However, it is meant to describe safety requirements of our products, thus this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship. No warranty is expressed or made as to this document's accuracy, reliability or completeness. User has the sole responsibility to determine the suitability of the materials for any use and the manner of use contemplated.

End of SDS