SAFETY DATA SHEET

Bulldog Aerosol Adhesion Promoter

Section 1. Identification

Product name : Bulldog Aerosol Adhesion Promoter

Product code : ETPO123AU

Other means of identification : ETPO123AU

Product type : Aerosol.

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

Product use : Paint adhesion.

Area of application : Consumer applications.

Supplier/Manufacturer : **Paint Smart Group**
10 Barberry Street
Judea
Tauranga NZ
Telephone:07 571 8921

e-mail address of person responsible for this SDS : www.paintsmart.co.nz[paintsmart.co.nz]

Emergency telephone number (with hours of operation) : 0800 764 766 (National Poison Centre)

Section 2. Hazards identification

HSNO Classification :

H222, H229	AEROSOLS - Category 1
H302	ACUTE TOXICITY (oral) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4
H315	SKIN IRRITATION - Category 2
H319	EYE IRRITATION - Category 2
H317	SKIN SENSITISATION - Category 1
H341	GERM CELL MUTAGENICITY - Category 2
H351	CARCINOGENICITY - Category 2
H361	REPRODUCTIVE TOXICITY - Category 2
H372	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

Percentage of the mixture consisting of ingredient(s) of unknown acute inhalation toxicity: 1.7%

Percentage of the mixture consisting of ingredient(s) of unknown hazards to the aquatic environment: 30.2%

This material is classified as hazardous according to criteria in the Hazardous Substances (Hazard Classification) Notice 2020.

This material is classified as DANGEROUS GOODS according to criteria in New Zealand Standard 5433:2012 Transport of Dangerous Goods on Land.

GHS label elements

Signal word : Danger

Section 2. Hazards identification

Hazard statements : H222, H229 - Extremely flammable aerosol. Pressurised container: may burst if heated.
H302 + H332 - Harmful if swallowed or if inhaled.
H315 - Causes skin irritation.
H317 - May cause an allergic skin reaction.
H319 - Causes serious eye irritation.
H341 - Suspected of causing genetic defects.
H351 - Suspected of causing cancer.
H361 - Suspected of damaging fertility or the unborn child.
H372 - Causes damage to organs through prolonged or repeated exposure.
H412 - Harmful to aquatic life with long lasting effects.

Precautionary statements

General : P103 - Read label before use.
P102 - Keep out of reach of children.
P101 - If medical advice is needed, have product container or label at hand.
Beware: Deliberately sniffing or inhaling concentrated contents can be harmful or fatal.
Do not apply directly into or onto water.
Take all reasonable steps to ensure that the substance does not cause any significant adverse effects to the environment beyond the application area.

Prevention : P201 - Obtain special instructions before use.
P202 - Do not handle until all safety precautions have been read and understood.
P280 - Wear protective gloves, protective clothing, eye protection, face protection, or hearing protection.
P210 - Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking.
P211 - Do not spray on an open flame or other ignition source.
P271 - Use only outdoors or in a well-ventilated area.
P273 - Avoid release to the environment.
P260 - Do not breathe dust or mist.
P270 - Do not eat, drink or smoke when using this product.
P264 - Wash thoroughly after handling.
P251 - Do not pierce or burn, even after use.

Response : P308 + P313 - IF exposed or concerned: Get medical advice or attention.
P304 + P340, P312 - IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER or doctor if you feel unwell.
P301 + P312, P330 - IF SWALLOWED: Call a POISON CENTER or doctor if you feel unwell. Rinse mouth.
P362 + P364 - Take off contaminated clothing and wash it before reuse.
P302 + P352 - IF ON SKIN: Wash with plenty of water.
P333 + P313 - If skin irritation or rash occurs: Get medical advice or attention.
P305 + P351 + P338 - IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P337 + P313 - If eye irritation persists: Get medical advice or attention.

Storage : P405 - Store locked up.
P410 + P412 - Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.

Disposal : P501 - Dispose of contents and container in accordance with all local, regional, national and international regulations.

Symbol :

Section 2. Hazards identification

Other hazards which do not result in classification : None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Other means of identification : ETPO123AU

Ingredient name	% (w/w)	CAS number
toluene	≥30 - ≤60	108-88-3
Dimethyl ether	≥30 - ≤60	115-10-6
2-Butanone	≤10	78-93-3
Benzene, dimethyl- mixed isomers	≤10	1330-20-7
Acetic acid, butyl ester	≤10	123-86-4
Benzene, ethenyl-	≤10	100-42-5
Ethanol, 2-butoxy-	≤3	111-76-2
divinylbenzene	≤3	1321-74-0
Benzene, ethyl-	≤2	100-41-4
2-Propenoic acid, 2-methyl-, ethyl ester	≤3	97-63-2

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Ingestion : Wash out mouth with water. Remove dentures if any. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention. If necessary, call a poison center or physician. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Section 4. First aid measures

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean shoes thoroughly before reuse.

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10 minutes. Get medical attention.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Inhalation : Harmful if inhaled.

Ingestion : Harmful if swallowed.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Over-exposure signs/symptoms

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced foetal weight
increase in foetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Skin : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

Eyes : Adverse symptoms may include the following:
pain or irritation
watering
redness

Indication of immediate medical attention and special treatment needed, if necessary

Specific treatments : No specific treatment.

Notes to physician : Treat symptomatically. Contact poison treatment specialist immediately if large quantities have been ingested or inhaled.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water before removing it, or wear gloves.

See toxicological information (Section 11)

Section 5. Firefighting measures

Extinguishing media

Suitable : In case of fire, use carbon dioxide. Use foam or all-purpose dry chemical to extinguish.

Not suitable : Do not use water jet.

Specific hazards arising from the chemical : Extremely flammable aerosol. Runoff to sewer may create fire or explosion hazard. In a fire or if heated, a pressure increase will occur and the container may burst, with the risk of a subsequent explosion. Gas may accumulate in low or confined areas or travel a considerable distance to a source of ignition and flash back, causing fire or explosion. Bursting aerosol containers may be propelled from a fire at high speed. This material is harmful to aquatic life with long lasting effects. Fire water contaminated with this material must be contained and prevented from being discharged to any waterway, sewer or drain.

Hazardous thermal decomposition products : Decomposition products may include the following materials:
carbon dioxide
carbon monoxide

Hazchem code : Not available.

Special precautions for fire-fighters : Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training. Move containers from fire area if this can be done without risk. Use water spray to keep fire-exposed containers cool.

Special protective equipment for fire-fighters : Fire-fighters should wear appropriate protective equipment and self-contained breathing apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel : No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. In the case of aerosols being ruptured, care should be taken due to the rapid escape of the pressurised contents and propellant. If a large number of containers are ruptured, treat as a bulk material spillage according to the instructions in the clean-up section. Do not touch or walk through spilt material. Shut off all ignition sources. No flares, smoking or flames in hazard area. Avoid breathing vapour or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders : If specialised clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions : Avoid dispersal of spilt material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air). Water polluting material. May be harmful to the environment if released in large quantities.

Methods and material for containment and cleaning up

Small spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Section 6. Accidental release measures

Large spill : Stop leak if without risk. Move containers from spill area. Use spark-proof tools and explosion-proof equipment. Approach the release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilt product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

Section 7. Handling and storage

Precautions for safe handling

Protective measures : Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Pressurised container: protect from sunlight and do not expose to temperature exceeding 50°C. Do not pierce or burn, even after use. Avoid exposure - obtain special instructions before use. Avoid exposure during pregnancy. Do not handle until all safety precautions have been read and understood. Do not get in eyes or on skin or clothing. Do not breathe vapour or mist. Do not ingest. Avoid breathing gas. Avoid release to the environment. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Store and use away from heat, sparks, open flame or any other ignition source. Use explosion-proof electrical (ventilating, lighting and material handling) equipment. Use only non-sparking tools. Empty containers retain product residue and can be hazardous.

Advice on general occupational hygiene : Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, including any incompatibilities : Store in accordance with local regulations. Store away from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Eliminate all ignition sources. Use appropriate containment to avoid environmental contamination. See Section 10 for incompatible materials before handling or use.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
toluene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020). Absorbed through skin.** WES-TWA: 50 ppm 8 hours. WES-TWA: 188 mg/m³ 8 hours.
dimethyl ether	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020).** WES-TWA: 400 ppm 8 hours. WES-TWA: 766 mg/m³ 8 hours. WES-STEL: 500 ppm 15 minutes. WES-STEL: 958 mg/m³ 15 minutes.
butanone	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020).**

Section 8. Exposure controls/personal protection

	WES-TWA: 150 ppm 8 hours. WES-TWA: 445 mg/m³ 8 hours. WES-STEL: 890 mg/m³ 15 minutes. WES-STEL: 300 ppm 15 minutes.
xylene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020).** WES-TWA: 50 ppm 8 hours. WES-TWA: 217 mg/m³ 8 hours.
n-butyl acetate	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020).** WES-TWA: 150 ppm 8 hours. WES-TWA: 713 mg/m³ 8 hours. WES-STEL: 950 mg/m³ 15 minutes. WES-STEL: 200 ppm 15 minutes.
styrene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020).** WES-TWA: 20 ppm 8 hours. WES-TWA: 85 mg/m³ 8 hours. WES-STEL: 170 mg/m³ 15 minutes. WES-STEL: 40 ppm 15 minutes.
2-butoxyethanol	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020). Absorbed through skin.** WES-TWA: 25 ppm 8 hours. WES-TWA: 121 mg/m³ 8 hours.
divinylbenzene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020).** WES-TWA: 10 ppm 8 hours. WES-TWA: 53 mg/m³ 8 hours.
ethylbenzene	**NZ HSWA 2015 - GRWM 2016 (New Zealand, 11/2020).** WES-TWA: 100 ppm 8 hours. WES-TWA: 434 mg/m³ 8 hours. WES-STEL: 543 mg/m³ 15 minutes. WES-STEL: 125 ppm 15 minutes.

Biological exposure indices

None known.

Appropriate engineering controls : Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits. The engineering controls also need to keep gas, vapour or dust concentrations below any lower explosive limits. Use explosion-proof ventilation equipment.

Environmental exposure controls : Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Section 8. Exposure controls/personal protection

Hygiene measures : Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection : Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: chemical splash goggles.

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the protection time of the gloves cannot be accurately estimated.

Body protection : Personal protective equipment for the body should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product. When there is a risk of ignition from static electricity, wear anti-static protective clothing. For the greatest protection from static discharges, clothing should include anti-static overalls, boots and gloves.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected based on the task being performed and the risks involved and should be approved by a specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important aspects of use.

Section 9. Physical and chemical properties and safety characteristics

The conditions of measurement of all properties are at standard temperature and pressure unless otherwise indicated.

Appearance

Physical state : Liquid. [Hazy]

Colour : Yellow. [Light]

Odour : Not available.

Odour threshold : Not available.

pH : Not available.

Melting point/freezing point : Not available.

Boiling point, initial boiling point, and boiling range : Not available.

Flash point : Closed cup: 5.56°C (42°F)

Evaporation rate : ~1 (butyl acetate = 1)

Flammability : Flammable aerosol.

Lower and upper explosion limit/flammability limit : Not available.

Section 9. Physical and chemical properties and safety characteristics

Vapour pressure : ≤4.1 kPa (≤31 mm Hg)

Relative vapour density : >1 [Air = 1]

Relative density : 0.895 to 0.905

Solubility(ies) : Not available.

Solubility in water : Not available.

Partition coefficient: n-octanol/water : Not applicable.

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

Heat of combustion : 31.36 kJ/g

Viscosity : Not available.

Flow time (ISO 2431) : Not available.

Particle characteristics

Median particle size : Not applicable.

Aerosol product

Type of aerosol : Spray

Other information

Physical/chemical properties comments : No additional information.

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous reactions : Under normal conditions of storage and use, hazardous reactions will not occur.

Under normal conditions of storage and use, hazardous polymerisation will not occur.

Conditions to avoid : Avoid all possible sources of ignition (spark or flame).

Incompatible materials : Reactive or incompatible with the following materials: acids and alkalis.
Incompatible materials : hydrogen peroxide / Nitric acid / Nitrates / Sulfuric acid / amines / reactive metals / Salt. / Aldehyde. / Ammonia. / Halogens

Hazardous decomposition products : Under normal conditions of storage and use, hazardous decomposition products should not be produced.

Section 11. Toxicological information

Information on likely routes of exposure

Inhalation : Harmful if inhaled.

Ingestion : Harmful if swallowed.

Skin contact : Causes skin irritation. May cause an allergic skin reaction.

Eye contact : Causes serious eye irritation.

Symptoms related to the physical, chemical and toxicological characteristics

Inhalation : Adverse symptoms may include the following:
respiratory tract irritation
coughing
reduced foetal weight
increase in foetal deaths
skeletal malformations

Ingestion : Adverse symptoms may include the following:
reduced foetal weight
increase in foetal deaths
skeletal malformations

Skin contact : Adverse symptoms may include the following:
irritation
redness
reduced foetal weight
increase in foetal deaths
skeletal malformations

Eye contact : Adverse symptoms may include the following:
pain or irritation
watering
redness

Delayed and immediate effects as well as chronic effects from short and long-term exposure

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Benzene, methyl-	LC50 Inhalation Vapour	Rat	49 g/m³	4 hours
	LD50 Dermal	Rat	12000 mg/kg	-
	LD50 Oral	Rat	636 mg/kg	-
Dimethyl ether	LC50 Inhalation Gas.	Rat	164000 ppm	4 hours
	LC50 Inhalation Vapour	Rat	309 g/m³	4 hours
2-Butanone	LC50 Inhalation Vapour	Rat	33.36 mg/l	4 hours
	LD50 Dermal	Rabbit	6480 mg/kg	-
	LD50 Oral	Rat	2737 mg/kg	-
Benzene, dimethyl- mixed isomers	LC50 Inhalation Gas.	Rat	5000 ppm	4 hours
	LD50 Oral	Rat	4300 mg/kg	-
Acetic acid, butyl ester	LC50 Inhalation Vapour	Rat	390 ppm	4 hours
	LD50 Dermal	Rabbit	>17600 mg/kg	-
	LD50 Oral	Rat	10768 mg/kg	-
Benzene, ethenyl-	LC50 Inhalation Gas.	Rat	2770 ppm	4 hours
	LC50 Inhalation Vapour	Rat	11800 mg/m³	4 hours
	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-
	LD50 Oral	Rat	2650 mg/kg	-
Ethanol, 2-butoxy-	LD50 Dermal	Rat - Male, Female	>2000 mg/kg	-

Section 11. Toxicological information

	LD50 Oral	Rat	250 mg/kg	-
divinylbenzene	LD50 Oral	Rat	4100 mg/kg	-
Benzene, ethyl-	LD50 Dermal	Rabbit	>5000 mg/kg	-
	LD50 Oral	Rat	3500 mg/kg	-
2-Propenoic acid, 2-methyl-, ethyl ester	LC50 Inhalation Vapour	Rat - Male, Female	55 mg/l	4 hours
	LC50 Inhalation Vapour	Rat	8300 ppm	4 hours
	LD50 Oral	Rat	12.7 g/kg	-

Conclusion/Summary : Not available.

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Benzene, methyl-	Eyes - Mild irritant	Rabbit	-	0.5 minutes 100 mg	-
	Eyes - Mild irritant	Rabbit	-	870 ug	-
	Eyes - Severe irritant	Rabbit	-	24 hours 2 mg	-
	Skin - Mild irritant	Rabbit	-	435 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 20 mg	-
	Skin - Moderate irritant	Rabbit	-	500 mg	-
2-Butanone	Skin - Mild irritant	Rabbit	-	24 hours 14 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Benzene, dimethyl- mixed isomers	Eyes - Mild irritant	Rabbit	-	87 mg	-
	Eyes - Severe irritant	Rabbit	-	24 hours 5 mg	-
	Skin - Mild irritant	Rat	-	8 hours 60 uL	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
Acetic acid, butyl ester	Eyes - Moderate irritant	Rabbit	-	100 mg	-
	Skin - Moderate irritant	Rabbit	-	24 hours 500 mg	-
Benzene, ethenyl-	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
	Skin - Moderate irritant	Rabbit	-	100 %	-
Ethanol, 2-butoxy-	Eyes - Moderate irritant	Rabbit	-	24 hours 100 mg	-
	Eyes - Severe irritant	Rabbit	-	100 mg	-
	Skin - Mild irritant	Rabbit	-	500 mg	-
Benzene, ethyl-	Eyes - Severe irritant	Rabbit	-	500 mg	-
	Skin - Mild irritant	Rabbit	-	24 hours 15 mg	-

Conclusion/Summary

Skin : Not available.

Eyes : Not available.

Respiratory : Not available.

Sensitisation

Conclusion/Summary

Section 11. Toxicological information

Skin : Not available.

Respiratory : Not available.

Potential chronic health effects

General : Causes damage to organs through prolonged or repeated exposure. Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Inhalation : No known significant effects or critical hazards.

Ingestion : No known significant effects or critical hazards.

Skin contact : Once sensitized, a severe allergic reaction may occur when subsequently exposed to very low levels.

Eye contact : No known significant effects or critical hazards.

Carcinogenicity : Suspected of causing cancer. Risk of cancer depends on duration and level of exposure.

Mutagenicity : Suspected of causing genetic defects.

Teratogenicity : Suspected of damaging the unborn child.

Developmental effects : No known significant effects or critical hazards.

Fertility effects : Suspected of damaging fertility.

Chronic toxicity

Conclusion/Summary : Not available.

Carcinogenicity

Conclusion/Summary : Not available.

Mutagenicity

Conclusion/Summary : Not available.

Teratogenicity

Conclusion/Summary : Not available.

Reproductive toxicity

Conclusion/Summary : Not available.

Specific target organ toxicity (single exposure)

Product/ingredient name	Category	Route of exposure	Target organs
divinylbenzene	Category 3 Category 3	-	Respiratory tract irritation Narcotic effects

Specific target organ toxicity (repeated exposure)

Product/ingredient name	Category	Route of exposure	Target organs
Bulldog Aerosol Adhesion Promoter	Category 1	-	-
toluene	Category 2	-	-
butanone	Category 2	-	-
xylene	Category 2	-	-
styrene	Category 1	-	-
ethylbenzene	Category 2	-	-

Aspiration hazard

Product/ingredient name
divinylbenzene ethylbenzene

Section 11. Toxicological information

Numerical measures of toxicity

Acute toxicity estimates

Product/ingredient name	Oral (mg/kg)	Dermal (mg/kg)	Inhalation (gases) (ppm)	Inhalation (vapours) (mg/l)	Inhalation (dusts and mists) (mg/l)
Bulldog Aerosol Adhesion Promoter	1261.2	13732.1	62418.9	17.7	N/A
toluene	636	12000	N/A	11	N/A
dimethyl ether	N/A	N/A	164000	309	N/A
butanone	2737	6480	N/A	33.36	N/A
xylene	500	1100	5000	N/A	N/A
n-butyl acetate	10768	N/A	N/A	11	N/A
styrene	500	N/A	N/A	3	N/A
2-butoxyethanol	500	N/A	N/A	11	N/A
divinylbenzene	4100	N/A	N/A	N/A	N/A
ethylbenzene	3500	N/A	N/A	11	N/A
ethyl methacrylate	12700	N/A	N/A	55	N/A

Section 12. Ecological information

Ecotoxicity : This material is harmful to aquatic life with long lasting effects.

Aquatic and terrestrial toxicity

Product/ingredient name	Result	Species	Exposure
toluene	Acute EC50 >433 ppm Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 11600 µg/l Fresh water	Crustaceans - Gammarus pseudolimnaeus - Adult	48 hours
	Acute EC50 6000 µg/l Fresh water	Daphnia - Daphnia magna - Juvenile (Fledgling, Hatchling, Weanling)	48 hours
	Acute LC50 5500 µg/l Fresh water	Fish - Oncorhynchus kisutch - Fry	96 hours
	Chronic NOEC 1000 µg/l Fresh water	Daphnia - Daphnia magna	21 days
butanone	Acute EC50 >500000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 5091000 µg/l Fresh water	Daphnia - Daphnia magna - Larvae	48 hours
	Acute LC50 3220000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
xylene	Acute LC50 8.5 ppm Marine water	Crustaceans - Palaemonetes pugio - Adult	48 hours
	Acute LC50 13400 µg/l Fresh water	Fish - Pimephales promelas	96 hours
n-butyl acetate	Acute LC50 32 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 18000 µg/l Fresh water	Fish - Pimephales promelas	96 hours
styrene	Acute EC50 78000 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 4700 µg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 52 mg/l Marine water	Crustaceans - Artemia salina	48 hours
	Acute LC50 4020 µg/l Fresh water	Fish - Pimephales promelas	96 hours
2-butoxyethanol	Acute EC50 >1000 mg/l Fresh water	Daphnia - Daphnia magna	48 hours
	Acute LC50 800000 µg/l Marine water	Crustaceans - Crangon crangon	48 hours
	Acute LC50 1250000 µg/l Marine water	Fish - Menidia beryllina	96 hours
	Acute NOEC 286 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Chronic NOEC 100 mg/l Fresh water	Daphnia - Daphnia magna	21 days
ethylbenzene	Acute EC50 4900 µg/l Marine water	Algae - Skeletonema costatum	72 hours

Section 12. Ecological information

	Acute EC50 7700 µg/l Marine water	Algae - Skeletonema costatum	96 hours
	Acute EC50 6.53 mg/l Marine water	Crustaceans - Artemia sp. - Nauplii	48 hours
	Acute EC50 2.93 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	48 hours
	Acute LC50 4200 µg/l Fresh water	Fish - Oncorhynchus mykiss	96 hours
ethyl methacrylate	Acute EC50 >110 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute LC50 100 mg/l	Fish - Oncorhynchus mykiss	96 hours
	Acute NOEC 110 mg/l Fresh water	Algae - Pseudokirchneriella subcapitata	72 hours
	Acute NOEC 28 mg/l	Fish - Oncorhynchus mykiss	96 hours
	Chronic NOEC 18 mg/l Fresh water	Daphnia - Daphnia magna - Neonate	21 days

Conclusion/Summary : Not available.

Persistence/degradability

Product/ingredient name	Test	Result	Dose	Inoculum
butanone	OECD 301D Ready Biodegradability - Closed Bottle Test	98 % - Readily - 28 days	-	-
xylene	OECD 301F Ready Biodegradability - Manometric Respirometry Test	98 % - Readily - 28 days	-	-
ethylbenzene	ISO	70 to 80 % - Readily - 28 days	-	Activated sludge
ethyl methacrylate	OECD 301D Ready Biodegradability - Closed Bottle Test	79.1 % - Readily - 28 days	-	-

Product/ingredient name	Aquatic half-life	Photolysis	Biodegradability
toluene	-	-	Readily
dimethyl ether	-	-	Not readily
butanone	-	-	Readily
xylene	-	-	Readily
n-butyl acetate	-	-	Readily
styrene	-	-	Readily
2-butoxyethanol	-	-	Readily
divinylbenzene	-	-	Not readily
ethylbenzene	-	-	Readily
ethyl methacrylate	-	-	Readily

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	$LogP_{ow}$	BCF	Potential
toluene	2.73	90	low
dimethyl ether	0.07	-	low
butanone	0.3	-	low
xylene	3.12	8.1 to 25.9	low
n-butyl acetate	2.3	-	low
styrene	0.35	13.49	low
2-butoxyethanol	0.81	-	low
divinylbenzene	3.8	323.59	low
ethylbenzene	3.6	-	low
ethyl methacrylate	1.87	-	low

Mobility in soil

Soil/water partition coefficient (K_{OC}) : Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods : The generation of waste should be avoided or minimised wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a safe way. Empty containers or liners may retain some product residues. Do not puncture or incinerate container.

Section 14. Transport information

	New Zealand	IMDG	IATA
UN number	UN1950	UN1950	UN1950
UN proper shipping name	AEROSOLS	AEROSOLS	Aerosols, flammable
Transport hazard class(es)	2.1 	2.1 	2.1 
Packing group	-	-	-
Environmental hazards	No.	No.	No.

Additional information

New Zealand : **Special provisions** 63, 190, 277, 327, 344

IMDG : **Emergency schedules** F-D, S-U
Special provisions 63, 190, 277, 327, 344, 381, 959

Section 14. Transport information

IATA : **Quantity limitation** Passenger and Cargo Aircraft: 75 kg. Packaging instructions: 203. Cargo Aircraft Only: 150 kg. Packaging instructions: 203. Limited Quantities - Passenger Aircraft: 30 kg. Packaging instructions: Y203.
Special provisions A145, A167, A802

Special precautions for user : **Transport within user's premises:** always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

Transport in bulk according to IMO instruments : Not available.

Section 15. Regulatory information

HSNO Approval Number : HSR002517

HSNO Group Standard : Aerosols (Flammable, Carcinogenic.)

HSNO Classification :

H222, H229	AEROSOLS - Category 1
H302	ACUTE TOXICITY (oral) - Category 4
H332	ACUTE TOXICITY (inhalation) - Category 4
H315	SKIN IRRITATION - Category 2
H319	EYE IRRITATION - Category 2
H317	SKIN SENSITISATION - Category 1
H341	GERM CELL MUTAGENICITY - Category 2
H351	CARCINOGENICITY - Category 2
H361	REPRODUCTIVE TOXICITY - Category 2
H372	SPECIFIC TARGET ORGAN TOXICITY - REPEATED EXPOSURE - Category 1
H412	LONG-TERM (CHRONIC) AQUATIC HAZARD - Category 3

New Zealand Inventory of Chemicals (NZIoC) : Not determined.

International regulations

Chemical Weapon Convention List Schedules I, II & III Chemicals

Not listed.

Montreal Protocol

Not listed.

Stockholm Convention on Persistent Organic Pollutants

Not listed.

Rotterdam Convention on Prior Informed Consent (PIC)

Not listed.

UNECE Aarhus Protocol on POPs and Heavy Metals

Not listed.

Section 16. Other information

History

Date of issue/Date of revision : 18/11/2022

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Version : 2.01

Sphera

Key to abbreviations : ADG = Australian Dangerous Goods
ADR = The European Agreement concerning the International Carriage of Dangerous Goods by Road
ATE = Acute Toxicity Estimate
BCF = Bioconcentration Factor
GHS = Globally Harmonized System of Classification and Labelling of Chemicals
IATA = International Air Transport Association
IBC = Intermediate Bulk Container
IMDG = International Maritime Dangerous Goods
LogPow = logarithm of the octanol/water partition coefficient
MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as modified by the Protocol of 1978. ("Marpol" = marine pollution)
RID = The Regulations concerning the International Carriage of Dangerous Goods by Rail
SGG = Segregation Group
UN = United Nations

References : Environmental Protection Authority - Inventory of Chemicals (NZIoC)
Hazardous Substances Regulations 2001 (Classification, Identification, Minimum Degrees of Hazard)
Hazardous Substances and New Organisms Act (HSNO) 1996 – Hazardous Substances List
Health and Safety in Employment Act 1992 - Workplace Exposure Standards and Biological Exposure Indices
Code of Practice for the Preparation of Safety Data Sheets (SDS)
Transport of Dangerous Goods on Land (NZS 5433:2012)
User Guide to the Thresholds and Classifications under the Hazardous Substances and New Organisms Act 1996 (GHS)
GHS - Globally Harmonised System of Classification and Labelling of Chemicals
International transport regulations

Indicates information that has changed from previously issued version.

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