

JJETT

Chemwatch: 4698-47 Version No: 2.1.1.1 Safety Data Sheet according to WHS and ADG requirements Chemwatch Hazard Alert Code: 3

Issue Date: 01/01/2013 Print Date: 02/02/2015 Initial Date: Not Available L.GHS.AUS.EN

SECTION 1 IDENTIFICATION OF THE SUBSTANCE / MIXTURE AND OF THE COMPANY / UNDERTAKING

Product Identifier

Product name	Film Cleaner 360, 350g Aerosol
Chemical Name	Not Applicable
Synonyms	Not Available
Proper shipping name	AEROSOLS
Chemical formula	Not Applicable
Other means of identification	Not Available
CAS number	Not Applicable

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

Relevant identified	Application is by spray atomisation from a hand held aerosol pack
	Use according to manufacturer's directions.
uses	Film and negative cleaner.

Details of the manufacturer/importer

Registered company name	JJETT
Address	84 Camp Road Broadmeadows 3047 VIC Australia
Telephone	+61 3 9457 1125
Fax	+61 3 9459 7978
Website	Not Available
Email	sales@aerosolve.com.au

Emergency telephone number

Association / Organisation	Not Available
Emergency telephone numbers	Not Available
Other emergency telephone numbers	Not Available

SECTION 2 HAZARDS IDENTIFICATION

Classification of the substance or mixture

HAZARDOUS CHEMICAL. DANGEROUS GOODS. According to the Model WHS Regulations and the ADG Code.

CHEMWATCH HAZARD RATINGS

		Min	Max	
Flammability	3			
Toxicity	2			0 = Minimum
Body Contact	2			1 = Low
Reactivity	1			2 = Moderate 3 = High
Chronic	2			4 = Extreme

Page 2 of 15 Film Cleaner 360, 350g Aerosol

GHS Classification ^[1]	Flammable Aerosol Category 1, Eye Irritation Category 2, STOT - SE (Narcosis) Category 3		
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HSIS ; 3. Classification drawn from EC Directive 1272/2008 - Annex VI		
abel elements			
GHS label elements			
SIGNAL WORD	DANGER		
azard statement(s)			
H222	Extremely flammable aerosol		
H319	Causes serious eye irritation		
H336	May cause drowsiness or dizziness		
AUH044	Risk of explosion if heated under confinement		
recautionary statem	ent(s) Prevention		
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.		
P251	Do not pierce or burn, even after use.		
P271	Use only outdoors or in a well-ventilated area.		
P261	Avoid breathing dust/fume/gas/mist/vapours/spray.		
P280	Wear protective gloves/protective clothing/eye protection/face protection.		

Precautionary statement(s) Response

P305+P351+P338	IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.	
P312	Call a POISON CENTER/doctor/physician/first aider/if you feel unwell.	
P337+P313	If eye irritation persists: Get medical advice/attention.	
P304+P340	IF INHALED: Remove person to fresh air and keep comfortable for breathing.	

Precautionary statement(s) Storage

P405	Store locked up.
P410+P412	Protect from sunlight. Do not expose to temperatures exceeding 50 °C/122 °F.
P403+P233	Store in a well-ventilated place. Keep container tightly closed.

Precautionary statement(s) Disposal

P501

Dispose of contents/container to authorised chemical landfill or if organic to high temperature incineration

SECTION 3 COMPOSITION / INFORMATION ON INGREDIENTS

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	Name
67-63-0	>60	isopropanol
68476-85-7.	NotSpec.	hydrocarbon propellant
	balance	ingredients determined not to be hazardous [Mfr]

SECTION 4 FIRST AID MEASURES

Description of first aid measures

Eye Contact

If aerosols come in contact with the eyes:

	 Immediately hold the eyelids apart and flush the eye continuously for at least 15 minutes 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. Transport to hospital or doctor without delay. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	 If solids or aerosol mists are deposited upon the skin: Flush skin and hair with running water (and soap if available). Remove any adhering solids with industrial skin cleansing cream. DO NOT use solvents. Seek medical attention in the event of irritation.
Inhalation	 If aerosols, 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.
Ingestion	 Not considered a normal route of entry. If spontaneous vomiting appears imminent or occurs, hold patient's head down, lower than their hips to help avoid possible aspiration of vomitus.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

- For acute or short term repeated exposures to isopropanol:
 - Rapid onset respiratory depression and hypotension indicates serious ingestions that require careful cardiac and respiratory monitoring together with immediate intravenous access.
 - Rapid absorption precludes the usefulness of emesis or lavage 2 hours post-ingestion. Activated charcoal and cathartics are not clinically useful. Ipecac is most useful when given 30 mins. post-ingestion.
 - There are no antidotes.
 - Management is supportive. Treat hypotension with fluids followed by vasopressors.
 - Watch closely, within the first few hours for respiratory depression; follow arterial blood gases and tidal volumes.
 - Ice water lavage and serial haemoglobin levels are indicated for those patients with evidence of gastrointestinal bleeding.

SECTION 5 FIREFIGHTING MEASURES

Extinguishing media

SMALL FIRE:
 Water spray, dry chemical or CO2
LARGE FIRE:
 Water spray or fog.

Special hazards arising from the substrate or mixture

Fire Incompatibility	• Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may
The moompationity	result

Advice for firefighters

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. If safe, switch off electrical equipment until vapour fire hazard removed. 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	 Liquid and vapour are highly flammable. Severe fire hazard when exposed to heat or flame. Vapour forms an explosive mixture with air. Severe explosion hazard, in the form of vapour, when exposed to flame or spark. Vapour may travel a considerable distance to source of ignition. Heating may cause expansion or decomposition with violent container rupture. Aerosol cans may explode on exposure to naked flames. Rupturing containers may rocket and scatter burning materials. Hazards may not be restricted to pressure effects. May emit acrid, poisonous or corrosive fumes.

On combustion, may emit toxic fumes of carbon monoxide (CO).
 Combustion products include:, carbon monoxide (CO), carbon dioxide (CO2), other pyrolysis products typical of burning organic material

SECTION 6 ACCIDENTAL RELEASE MEASURES

Minor Spills	 Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Wear protective clothing, impervious gloves and safety glasses. Shut off all possible sources of ignition and increase ventilation. Wipe up. If safe, damaged cans should be placed in a container outdoors, away from all ignition sources, until pressure has dissipated. Undamaged cans should be gathered and stowed safely.
Major Spills	 DO NOT exert excessive pressure on valve; DO NOT attempt to operate damaged valve. 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 courses 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. Absorb or cover spill with sand, earth, inert materials or vermiculite. If safe, damaged cans should be placed in a container outdoors, away from ignition sources, until pressure has dissipated. Undamaged cans should be gathered and stowed safely. Collect residues and seal in labelled drums for disposal. Remove leaking cylinders to a safe place if possible. Release pressure under safe, controlled conditions by opening the valve.

SECTION 7 HANDLING AND STORAGE

Precautions for safe handling

Safe handling	 DO NOT allow clothing wet with material to stay in contact with skin 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 or ignition sources. Avoid contact with incompatible materials. When handling, DO NOT eat, drink or smoke. DO NOT incinerate or puncture aerosol cans. DO NOT spray directly on humans, exposed food or food utensils. 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 storage and handling recommendations contained within this MSDS. Atmosphere should be regularly checked against established exposure standards to ensure safe working conditions are maintained.
Other information	 Keep dry to avoid corrosion of cans. Corrosion may result in container perforation and internal pressure may eject contents of can Store in original containers in approved flammable liquid storage area. DO NOT store in pits, depressions, basements or areas where vapours may be trapped. No smoking, naked lights, heat or ignition sources. Keep containers securely sealed. Contents under pressure. Store in a cool, dry, well ventilated area. Avoid storage at temperatures higher than 40 deg C. Store in an upright position. Protect containers against physical damage. Check regularly for spills and leaks. Observe manufacturer's storage and bandling recommendations contained within this MSDS

Conditions for safe storage, including any incompatibilities

Suitable container	 DO NOT use aluminium or galvanised containers Aerosol dispenser. Check that containers are clearly labelled.
Storage incompatibility	Avoid reaction with oxidising agents

PACKAGE MATERIAL INCOMPATIBILITIES

Not Available

SECTION 8 EXPOSURE CONTROLS / PERSONAL PROTECTION

Control parameters

OCCUPATIONAL EXPOSURE LIMITS (OEL)

INGREDIENT DATA

Source	Ingredient	Material name	TWA	STEL	Peak	Notes
Australia Exposure Standards	isopropanol	Isopropyl alcohol	983 mg/m3 / 400 ppm	1230 mg/m3 / 500 ppm	Not Available	Not Available
Australia Exposure Standards	hydrocarbon propellant	LPG (liquified petroleum gas)	1800 mg/m3 / 1000 ppm	Not Available	Not Available	Not Available

EMERGENCY LIMITS

Ingredient	Material name	TEEL	-1	TEEL-2	TEEL-3	
isopropanol	Isopropyl alcohol	400 p	pm	400 ppm	12000 ppm	
hydrocarbon propellant	Liquified petroleum gas; (L.P.G.) 3,000 p		ppm	3200 ppm	19000 ppm	
Ingredient	Original IDLH		Revised IDLH	ł		
isopropanol	12,000 ppm		2,000 [LEL] ppm			
isopropanol	12,000 ppm		2,000 [LEL] pp	m		

2,000 [LEL] ppm

MATERIAL DATA

hydrocarbon propellant

Odour Threshold Value: 3.3 ppm (detection), 7.6 ppm (recognition)

19,000 [LEL] ppm

Exposure at or below the recommended isopropanol TLV-TWA and STEL is thought to minimise the potential for inducing narcotic effects or significant irritation of the eyes or upper respiratory tract. It is believed, in the absence of hard evidence, that this limit also provides protection against the development of chronic health effects. The limit is intermediate to that set for ethanol, which is less toxic, and n-propyl alcohol, which is more toxic, than isopropanol

NOTE K: The classification as a carcinogen need not apply if it can be shown that the substance contains less than 0.1%w/w 1,3-butadiene (EINECS No 203-450-8). - European Union (EU) List of Dangerous Substances (Annex VI).

Exposure controls

	 Engineering controls are used to remove a hazard or place a barrier between the worker and the hazard. Well-designed engineering controls can be highly effective in protecting workers and will typically be independent of worker interactions to provide this high level of protection. The basic types of engineering controls are: Process controls which involve changing the way a job activity or process is done to reduce the risk. Enclosure and/or isolation of emission source which keeps a selected hazard "physically" away from the worker and ventilation that strategically "adds" and "removes" air in the work environment. Ventilation can remove or dilute an air contaminant if designed properly. The design of a ventilation system must match the particular process and chemical or contaminant in use. Employers may need to use multiple types of controls to prevent employee overexposure. 			
Appropriate engineering controls				
	Type of Contaminant: Speed: aerosols, (released at low velocity into zone of active generation) 0.5-1 m/s			
	direct spray, spray painting in shallow booths, 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:			

Upper end of the range

Film Cleaner 360, 350g Aerosol

Lower end of the range

1. Noom air currents minimal or throughable to capture 1: Disturbing from air currents 2. Contaminants of low toxicity or of nuisance value only. 2: Contaminants of high toxicity 2. Contaminants of low toxicity or of nuisance value only. 2: Contaminants of high toxicity 2. Large hood or large air mass in motion 4: High production. have yues 4: Large hood or large air mass in motion 4: Small hood-local control only 4: Earge hood or large air mass in motion 4: Small hood-local control only 5: motion apportunity decreases with the source of distance from the contraction point insuing source. The air velocity at a the extraction paint should be a dijusted, accordingly, after reference to distance from the contraction point should be adjusted at the extraction appartus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction appartus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction appartus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction appartus, make it essential that theoretical air velocities are multiplied by factors of 10 or more when extraction appendence. Forsonal protection Startery glasses with side shields. Formical pagnifies. Contract lenses may absorb and concentrate irritans. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should be removed in a clean environment on high affer end poreaction below Starter			opper end of the lange			
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Thermal hazards Not Available	Other protection	 OTHERWISE: Overalls. Skin cleansing cream. Eyewash unit. Do not spray on hot surfaces. The clothing worn by process operators insulated from earth may develop st the minimum ignition energies for various flammable gas-air mixtures. This h including cotton. Avoid dangerous levels of charge by ensuring a low resistivity of the surface 	holds true for a wide range of clothing materials			
	Thermal hazards	Not Available				

Recommended material(s)

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:

Film Cleaner 360, 350g Aerosol

Material	CPI
NEOPRENE	A
NITRILE	A
NITRILE+PVC	A
PE/EVAL/PE	A
PVC	В
NAT+NEOPR+NITRILE	С

Respiratory protection

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

Where the concentration of gas/particulates in the breathing zone, approaches or exceeds the "Exposure Standard" (or ES), respiratory protection is required.

Degree of protection varies with both face-piece and Class of filter; the nature of protection varies with Type of filter.

Required Minimum Protection Factor	Half-Face Respirator	Full-Face Respirator	Powered Air Respirator
up to 10 x ES	Air-line*	AX-2	AX-PAPR-2 ^
up to 20 x ES	-	AX-3	-
20+ x ES	-	Air-line**	-

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

NATURAL RUBBER	С
NATURAL+NEOPRENE	С

* 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.

^ - Full-face

A(All classes) = Organic vapours, B AUS or B1 = Acid gasses, B2 = Acid gas or hydrogen cyanide(HCN), B3 = Acid gas or hydrogen cyanide(HCN), E = Sulfur dioxide(SO2), G = Agricultural chemicals, K = Ammonia(NH3), Hg = Mercury, NO = Oxides of nitrogen, MB = Methyl bromide, AX = Low boiling point organic compounds(below 65 degC)

SECTION 9 PHYSICAL AND CHEMICAL PROPERTIES

Information on basic physical and chemical properties

Appearance	Clear oily liquid / spray; not miscible with water.		
Physical state	Liquid	Relative density (Water = 1)	0.85
Odour	Not Available	Partition coefficient n-octanol / water	Not Available
Odour threshold	Not Available	Auto-ignition temperature (°C)	Not Available
pH (as supplied)	Not Available	Decomposition temperature	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Not Available	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	-30	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	HIGHLY FLAMMABLE.	Oxidising properties	Not Available
Upper Explosive Limit (%)	7.5	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	1.2	Volatile Component (%vol)	90 approx
Vapour pressure (kPa)	379	Gas group	Not Available
Solubility in water (g/L)	Immiscible	pH as a solution(1%)	Not Available
Vapour density (Air = 1)	Not Available	VOC g/L	Not Available

SECTION 10 STABILITY AND REACTIVITY

Reactivity	See section 7
Chemical stability	 Elevated temperatures. Presence of open flame. Product is considered stable. Hazardous polymerisation will not occur.
Possibility of hazardous reactions	See section 7
Conditions to avoid	See section 7
Incompatible materials	See section 7
Hazardous decomposition products	See section 5

SECTION 11 TOXICOLOGICAL INFORMATION

Information on toxicological effects

	Inhalation of vapours may cause drowsiness and dizziness. This may be accompanied by narcosis, reduced alertness, loss of reflexes, lack of coordination and vertigo.
	Inhalation of aerosols (mists, fumes), generated by the material during the course of normal handling, may be damaging to the health of the individual. Limited evidence or practical experience suggests that the material may produce irritation of the respiratory system, in a significant number of individuals, following inhalation. In contrast to most organs, the lung is able to respond to a chemical insult by first removing or neutralising the irritant and then repairing the damage. The repair process, which initially evolved to protect mammalian lungs from foreign matter and antigens, may however, produce further lung damage resulting in the impairment of gas exchange, the primary function of the lungs. Respiratory tract irritation often results in an inflammatory response involving the recruitment and activation of many cell types, mainly derived from the vascular system.
Inhaled	 Common, generalised symptoms associated with toxic gas inhalation include: central nervous system effects such as depression, headache, confusion, dizziness, progressive stupor, coma and seizures; respiratory system complications may include acute pulmonary oedema, dyspnoea, stridor, tachypnoea, bronchospasm, wheezing and other reactive airway symptoms, and respiratory arrest; cardiovascular effects may include cardiovascular collapse, arrhythmias and cardiac arrest; gastrointestinal effects may also be present and may include mucous membrane irritation, nausea and vomiting (sometimes bloody), and abdominal pain. WARNING:Intentional misuse by concentrating/inhaling contents may be lethal. The odour of isopropanol may give some warning of exposure, but odour fatigue may occur. Inhalation of isopropanol may produce irritation of the nose and throat with sneezing, sore throat and runny nose. The effects in animals subject to a single exposure, by inhalation, included inactivity or anaesthesia and histopathological changes in the nasal canal and auditory canal.
Ingestion	Accidental ingestion of the material may be damaging to the health of the individual. Not normally a hazard due to physical form of product. Considered an unlikely route of entry in commercial/industrial environments Following ingestion, a single exposure to isopropyl alcohol produced lethargy and non-specific effects such as weight loss and irritation. Ingestion of near-lethal doses of isopropanol produces histopathological changes of the stomach, lungs and kidneys, incoordination, lethargy, gastrointestinal tract irritation, and inactivity or anaesthesia. Swallowing 10 ml. of isopropanol may cause serious injury; 100 ml. may be fatal if not promptly treated. The adult single lethal doses is approximately 250 ml. The toxicity of isopropanol is twice that of ethanol and the symptoms of intoxication appear to be similar except for the absence of an initial euphoric effect; gastritis and vomiting are more prominent. Ingestion may cause nausea, vomiting, and diarrhoea. There is evidence that a slight tolerance to isopropanol may be acquired.
Skin Contact	 Repeated exposure may cause skin cracking, flaking or drying following normal handling and use. The material may produce mild skin irritation; limited evidence or practical experience suggests, that the material either: produces mild inflammation of the skin in a substantial number of individuals following direct contact, and/or produces significant, but mild, 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 irritation may also be present after prolonged or repeated exposure; this may result in a form of contact dermatitis (non allergic). The dermatitis is often characterised by skin redness (erythema) and swelling (oedema) which may progress to blistering (vesiculation), scaling and thickening of the epidermis. At the microscopic level there may be intercellular oedema of the spongy layer of the skin (spongiosis) and intracellular oedema of the epidermis. Spray mist may produce discomfort Open cuts, abraded or irritated skin should not be exposed to this material Entry into the blood-stream through, for example, cuts, abrasions, puncture wounds or lesions, may produce systemic injury with harmful effects. Examine the skin prior to the use of the material and ensure that any external damage is suitably protected. 511ipa
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. Repeated or prolonged eye contact may cause inflammation characterised by temporary redness (similar to windburn) of the conjunctiva (conjunctivitis); temporary impairment of vision and/or other transient eye damage/ulceration may occur. Direct contact with the eye may not cause irritation because of the extreme volatility of the gas; however concentrated atmospheres may produce irritation after brief exposures Isopropanol vapour may cause mild eye irritation at 400 ppm. Splashes may cause severe eye irritation, possible corneal burns and eye damage. Eye contact may cause tearing or blurring of vision.
Chronic	On the basis, primarily, of animal experiments, concern has been expressed by at least one classification body that the material may produce carcinogenic or mutagenic effects; in respect of the available information, however, there presently exists inadequate data for making a satisfactory assessment. Limited evidence suggests that repeated or long-term occupational exposure may produce cumulative health effects involving organs or biochemical systems. Principal route of occupational exposure to the gas is by inhalation. Long term or repeated ingestion exposure of isopropanol may produce incoordination, lethargy and reduced weight gain.

Film Cleaner 360, 350g Aerosol

Repeated inhalation exposure to isopropanol may produce narcosis, incoordination and liver degeneration. Animal data show developmental effects only at exposure levels that produce toxic effects in the adult animals. Isopropanol does not cause genetic damage in bacterial or mammalian cell cultures or in animals.
There are inconclusive reports of human sensitisation from skin contact with isopropanol. Chronic alcoholics are more tolerant of systemic isopropanol than are persons who do not consume alcohol; alcoholics have survived as much as 500 ml. of 70% isopropanol.
Continued voluntary drinking of a 2.5% aqueous solution through two successive generations of rats produced no reproductive effects. NOTE: Commercial isopropanol does not contain "isopropyl oil". An excess incidence of sinus and laryngeal cancers in isopropanol production workers has been shown to be caused by the byproduct "isopropyl oil". Changes in the production processes now ensure that no byproduct is formed. Production changes include use of dilute sulfuric acid at higher temperatures.

Film Cleaner 360, 350g	TOXICITY	IRRITATION	
Aerosol	Not Available	Not Available	
	TOXICITY	IRRITATION	
	Dermal (rabbit) LD50: 12800 mg/kg	Eye (rabbit): 10 mg - moderate	
	Inhalation (Human) TCLo: 150 ppm/2h	Eye (rabbit): 100 mg - SEVERE	
	Inhalation (Human) TCLo: 35 ppm/4h	Eye (rabbit): 100mg/24hr-moderate	
	Inhalation (Mouse) LC50: 53000 mg/m3/4h	Skin (rabbit): 500 mg - mild	
	Inhalation (Rat) LC50: 72600 mg/m3/4h		
	Intraperitoneal (Guinea pig) LD50: 2560 mg/kg		
	Intraperitoneal (Mouse) LD50: 4477 mg/kg		
	Intraperitoneal (Rabbit) LD50: 667 mg/kg		
	Intraperitoneal (Rat) LD50: 2735 mg/kg		
	Intraperitoneal (Rat) TDLo: 800 mg/kg		
isopropanol	Intravenous (Cat) LD: 1963 mg/kg		
	Intravenous (Dog) LD: 1024 mg/kg		
	Intravenous (Mouse) LD50: 1509 mg/kg		
	Intravenous (Rabbit) LD50: 1184 mg/kg		
	Intravenous (Rat) LD50: 1088 mg/kg		
	Oral (Dog) LD: 1537 mg/kg		
	Oral (Human) LD: 3570 mg/kg		
	Oral (Human) LD: 5272 mg/kg		
	Oral (human) LDLo: 3570 mg/kg		
	Oral (Human) TDLo: 14432 mg/kg		
	Oral (human) TDLo: 223 mg/kg		

	Oral (Human) TDLo: 286 mg/kg	
	Oral (man) TDLo: 14432 mg/kg	
	Oral (Mouse) LD50: 3600 mg/kg	
	Oral (Rabbit) LD50: 6410 mg/kg	
	Oral (Rat) LD50: 5000 mg/kg	
	Oral (rat) LD50: 5045 mg/kg	
	Not Available	Not Available
	ΤΟΧΙΟΙΤΥ	IRRITATION
hydrocarbon propellant	Not Available	Not Available

* Value obtained from manufacturer's msds

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

Film Cleaner 360, 350g Aerosol	For isopropanol (IPA): Acute toxicity: Isopropanol has a low order of acute toxicity. It is irritating to the eyes, but not to the skin. Very high vapor concentrations are irritating to the eyes, nose, and throat, and prolonged exposure may produce central nervous system depression and narcosis. Human volunteers reported that exposure to 400 ppm isopropanol vapors for 3 to 5 min. caused mild irritation of the eyes, nose and throat. Although isopropanol produced little irritation when tested on the skin of human volunteers, there have been reports of isolated cases of dermal irritation and/or sensitization. The use of isopropanol as a sponge treatment for the control of fever has resulted in cases of intoxication, probably the result of both dermal absorption and inhalation. There have been a number of cases of poisoning reported due to the intentional ingestion of isopropanol, particularly among alcoholics or suicide victims. These ingestions typically result in a comatose condition. Pulmonary difficulty, nausea, vomiting, and headache accompanied by various degrees of central nervous system depression are typical. In the absence of shock, recovery usually occurred. Repeat dose studies: The systemic (non-cancer) toxicity of repeated exposure to isopropanol has been evaluated in rats and mice by the inhalation and oral routes. The only adverse effects-in addition to clinical signs identified from these studies were to the kidney. Reproductive toxicity: A recent two-generation reproductive study characterised the reproductive hazard for isopropanol associated with oral gavage exposure. This study found that the only reproductive parameter apparently affected by isopropanol exposure was a statistically significant decrease in male mating index in the fmales. It is possible that the change in this reproductive parameter was treatment related and significant. Although the mechanism of this effect could not be discerned from the results of the study. However, the lack of a significant effect or
ISOPROPANOL	For isopropanol (IPA): Acute toxicity: Isopropanol has a low order of acute toxicity. It is irritating to the eyes, but not to the skin. Very high vapor concentrations are irritating to the eyes, nose, and throat, and prolonged exposure may produce central nervous system depression and narcosis. Human volunteers reported that exposure to 400 ppm isopropanol vapors for 3 to 5 min. caused mild irritation of the eyes, nose and throat. Although isopropanol produced little irritation when tested on the skin of human volunteers, there have been reports of isolated cases of dermal irritation and/or sensitization. The use of isopropanol as a sponge treatment for the control of fever has resulted in cases of intoxication, probably the result of both dermal absorption and inhalation. There have been a number of cases of poisoning reported due to the intentional ingestion of isopropanol, particularly among alcoholics or

suicide victims. These ingestions typically result in a comatose condition. Pulmonary difficulty, nausea, vomiting, and headache accompanied by various degrees of central nervous system depression are typical. In the absence of shock, recovery usually occurred.

Repeat dose studies: The systemic (non-cancer) toxicity of repeated exposure to isopropanol has been evaluated in rats and mice by the inhalation and oral routes. The only adverse effects-in addition to clinical signs identified from these studies were to the kidney.

Reproductive toxicity: A recent two-generation reproductive study characterised the reproductive hazard for isopropanol associated with oral gavage exposure. This study found that the only reproductive parameter apparently affected by isopropanol exposure was a statistically significant decrease in male mating index of the F1 males. It is possible that the change in this reproductive parameter was treatment related and significant, although the mechanism of this effect could not be discerned from the results of the study. However, the lack of a significant effect of the female mating index in either generation, the absence of any adverse effect on litter size, and the lack of histopathological findings of the testes of the high-dose males suggest that the observed reduction in male mating index may not be biologically meaningful. **Developmental toxicity:** The developmental toxicity of isopropanol has been characterized in rat and rabbit developmental toxicity studies. These studies indicate that isopropanol is not a selective developmental toxicity occurred

only at maternally toxic doses and consisted of decreased foetal body weights, but no teratogenicity **Genotoxicity:** All genotoxicity assays reported for isopropanol have been negative

Carcinogenicity: rodent inhalation studies were conduct to evaluate isopropanol for cancer potential. The only tumor rate increase seen was for interstitial (Leydig) cell tumors in the male rats. Interstitial cell tumors of the testis is typically the most frequently observed spontaneous tumor in aged male Fischer 344 rats. These studies demonstrate that isopropanol does not exhibit carcinogenic potential relevant to humans. Furthermore, there was no evidence from this study to indicate the development of carcinomas of the testes in the male rat, nor has isopropanol been found to be genotoxic. Thus, the testicular tumors seen in the isopropanol exposed male rats are considered of no significance in terms of human cancer risk assessment

The material may cause skin irritation after prolonged or repeated exposure and may produce a contact dermatitis (nonallergic). This form of dermatitis is often characterised by skin redness (erythema) and swelling epidermis. Histologically there may be intercellular oedema of the spongy layer (spongiosis) and intracellular oedema of the epidermis.

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.

No significant acute toxicological data identified in literature search.

for Petroleum Hydrocarbon Gases:

In many cases, there is more than one potentially toxic constituent in a refinery gas. In those cases, the constituent that is most toxic for a particular endpoint in an individual refinery stream is used to characterize the endpoint hazard for that stream. The hazard potential for each mammalian endpoint for each of the petroleum hydrocarbon gases is dependent upon each petroleum hydrocarbon gas constituent endpoint toxicity values (LC50, LOAEL, etc.) and the relative concentration of the constituent present in that gas. It should also be noted that for an individual petroleum hydrocarbon gas, the constituent characterizing toxicity may be different for different mammalian endpoints, again, being dependent upon the concentration of the different constituents in each, distinct petroleum hydrocarbon gas.

All Hydrocarbon Gases Category members contain primarily hydrocarbons (i.e., alkanes and alkenes) and occasionally asphyxiant gases like hydrogen. The inorganic components of the petroleum hydrocarbon gases are less toxic than the C1 - C4 and C5 - C6 hydrocarbon components to both mammalian and aquatic organisms. Unlike other petroleum product categories (e.g. gasoline, diesel fuel, lubricating oils, etc.), the inorganic and hydrocarbon constituents of hydrocarbon gases can be evaluated for hazard individually to then predict the screening level hazard of the Category members **Acute toxicity**: No acute toxicity LC50 values have been derived for the C1 - C4 and C5 - C6 hydrocarbon (HC) fractions because no mortality was observed at the highest exposure levels tested (~ 5 mg/l) for these petroleum hydrocarbon gas constituents. The order of acute toxicity of petroleum hydrocarbon gas constituents from most to least toxic is: C5-C6 HCs (LC50 > 1063 ppm) > C1-C4 HCs (LC50 > 10,000 ppm) > benzene (LC50 = 13,700 ppm) > butadiene (LC50 = 129,000 ppm) > asphyxiant gases (hydrogen, carbon dioxide, nitrogen).

HYDROCARBON PROPELLANT

Repeat dose toxicity: With the exception of the asphyxiant gases, repeated dose toxicity has been observed in individual selected petroleum hydrocarbon gas constituents. Based upon LOAEL values, the order of order of repeated-dose toxicity of these constituents from most toxic to the least toxic is:

Benzene (LOAEL .>=10 ppm) >C1-C4 HCs (LOAEL = 5,000 ppm; assumed to be 100% 2-butene) > C5-C6 HCs (LOAEL = 6,625 ppm) > butadiene (LOAEL = 8,000 ppm) > asphyxiant gases (hydrogen, carbon dioxide, nitrogen). Genotoxicity:

In vitro: The majority of the Petroleum Hydrocarbon Gases Category components are negative for *in vitro* genotoxicity. The exceptions are: benzene and 1,3-butadiene, which are genotoxic in bacterial and mammalian *in vitro* test systems. *In vivo*: The majority of the Petroleum Hydrocarbon Gases Category components are negative for *in vivo* genotoxicity. The

exceptions are benzene and 1,3-butadiene, which are genotoxic in in vivo test systems

Developmental toxicity: Developmental effects were induced by two of the petroleum hydrocarbon gas constituents, benzene and the C5 -C6 hydrocarbon fraction. No developmental toxicity was observed at the highest exposure levels tested for the other petroleum hydrocarbon gas constituents tested for this effect. The asphyxiant gases have not been tested for developmental toxicity. Based on LOAEL and NOAEL values, the order of acute toxicity of these constituents from most to least toxic is:

Benzene (LOAEL = 20 ppm) > butadiene (NOAEL .>=1,000 ppm) > C5-C6 HCs (LOAEL = 3,463 ppm) > C1-C4 HCs (NOAEL >=5,000 ppm; assumed to be 100% 2-butene) > asphyxiant gases (hydrogen, carbon dioxide, nitrogen). **Reproductive toxicity:** Reproductive effects were induced by only two petroleum hydrocarbon gas constituents,

benzene and isobutane (a constituent of the the C1-C4 hydrocarbon fraction). No reproductive toxicity was observed at the highest exposure levels tested for the other petroleum hydrocarbon gas constituents tested for this effect. The asphyxiant gases have not been tested for reproductive toxicity. Based on LOAEL and NOAEL values, the order of reproductive toxicity of these constituents from most to least toxic is:

Benzene (LOAEL = 300 ppm) > butadiene (NOAEL .>=6,000 ppm) > C5-C6 HCs (NOAEL .>=6,521 ppm) > C1-C4 HCs (LOAEL = 9,000 ppm; assumed to be 100% isobutane) > asphyxiant gases (hydrogen, carbon dioxide, nitrogen)

Acute Toxicity	0	Carcinogenicity	0
Skin Irritation/Corrosion	0	Reproductivity	0
Serious Eye Damage/Irritation	×	STOT - Single Exposure	*
Respiratory or Skin sensitisation	0	STOT - Repeated Exposure	0
Mutagenicity	0	Aspiration Hazard	0

Legend: 🗹

Data required to make classification available

¥ − Data available but does not fill the criteria for classification

Not Available to make classification

CMR STATUS

Not Applicable

SECTION 12 ECOLOGICAL INFORMATION

Toxicity

NOT AVAILABLE

Ingredient	Endpoint	Test Duration	Effect	Value	Species	BCF
isopropanol	Not Available					
hydrocarbon propellant	Not Available					

For isopropanol (IPA): log Kow : -0.16- 0.28 Half-life (hr) air : 33-84 Half-life (hr) H2O surface water : 130 Henry's atm m3 /mol: 8.07E-06 BOD 5: 1.19,60% COD : 1.61-2.30,97% ThOD : 2.4 BOD 20: >70% * [Akzo Nobel]

Environmental Fate

Based on calculated results from a lever 1 fugacity model,IPA is expected to partition primarily to the aquatic compartment (77.7%) with the remainder to the air (22.3%). IPA has been shown to biodegrade rapidly in aerobic, aqueous biodegradation tests and therefore, would not be expected to persist in aquatic habitats. IPA is also not expected to persist in surface soils due to rapid evaporation to the air. In the air, physical degradation will occur rapidly due to hydroxy

radical (OH) attack. Overall, IPA presents a low potential hazard to aquatic or terrestrial biota.

IPA is expected to volatilise slowly from water based on a calculated Henry's Law constant of 7.52 x 10 -6 atm.m 3 /mole. The calculated half-life for the volatilisation from surface water (1 meter depth) is predicted to range from 4 days (from a river) to 31 days (from a lake). Hydrolysis is not considered a significant degradation process for IPA. However, aerobic biodegradation of IPA has been shown to occur rapidly under non-acclimated conditions, based on a result of 49% biodegradation from a 5 day BOD test. Additional biodegradation data developed using standardized test methods show that IPA is readily biodegradable in both freshwater and saltwater media (72 to 78% biodegradation in 20 days).

IPA will evaporate quickly from soil due to its high vapor pressure (43 hPa at 20°C), and is not expected to partition to the soil based on a calculated soil adsorption coefficient (log Koc) of 0.03.

IPA has the potential to leach through the soil due to its low soil adsorption

In the air, isopropanol is subject to oxidation predominantly by hydroxy radical attack. The room temperature rate constants determined by several investigators are in good agreement for the reaction of IPA with hydroxy radicals. The atmospheric half-life is expected to be 10 to 25 hours, based on measured degradation rates ranging from 5.1 to 7.1 x 10 -12 cm3 /molecule-sec, and an OH concentration of 1.5 x 106 molecule/cm3, which is a commonly used default value for calculating atmospheric half-lives. Using OH concentrations representative of polluted (3 x 106) and pristine (3 x 105) air, the atmospheric half-life of IPA would range from 9 to 126 hours, respectively. Direct photolysis is not expected to be an important transformation process for the degradation of IPA.

Ecotoxicity:

IPA has been shown to have a low order of acute aquatic toxicity. Results from 24- to 96-hour LC50 studies range from 1,400 to more than 10,000 mg/L for freshwater and saltwater fish and invertebrates. In addition, 16-hour to 8-day toxicity threshold levels (equivalent to 3% inhibition in cell growth) ranging from 104 to 4,930 mg/L have been demonstrated for various microorganisms.

Chronic aquatic toxicity has also been shown to be of low concern, based on 16- to 21-day NOEC values of 141 to 30 mg/L, respectively, for a freshwater invertebrate. Bioconcentration of IPA in aquatic organisms is not expected to occur based on a measured log octanol/water partition coefficient

(log Kow) of 0.05, a calculated bioconcentration factor of 1 for a freshwater fish, and the unlikelihood of constant, long-term exposures. **Toxicity to Plants**

Toxicity of IPA to plants is expected to be low, based on a 7-day toxicity threshold value of 1,800 mg/L for a freshwater algae, and an EC50 value of 2,100 mg/L from a lettuce seed germination test.

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
isopropanol	LOW (Half-life = 14 days)	LOW (Half-life = 3 days)

Bioaccumulative potential

Ingredient	Bioaccumulation
isopropanol	LOW (LogKOW = 0.05)
Mobility in soil	

Ingredient	Mobility
isopropanol	HIGH (KOC = 1.06)

SECTION 13 DISPOSAL CONSIDERATIONS

Waste treatment methods

	Legislation addressing waste disposal requirements may differ by country, state and/ or territory. Each user must refer to
	laws operating in their area. In some areas, certain wastes must be tracked.
	A Hierarchy of Controls seems to be common - the user should investigate:
	▶ Reduction
	▶ Reuse
	▶ Recycling
	▶ Disposal (if all else fails)
	This material may be recycled if unused, or if it has not been contaminated so as to make it unsuitable for its intended use.
	If it has been contaminated, it may be possible to reclaim the product by filtration, distillation or some other means. Shelf life
Product / Packaging	considerations should also be applied in making decisions of this type. Note that properties of a material may change in use,
disposal	and recycling or reuse may not always be appropriate.
uisposai	 DO NOT allow wash water from cleaning or process equipment to enter drains.
	 It may be necessary to collect all wash water for treatment before disposal.
	In all cases disposal to sewer may be subject to local laws and regulations and these should be considered first.
	Where in doubt contact the responsible authority.
	 Consult State Land Waste Management Authority for disposal.
	 Discharge contents of damaged aerosol cans at an approved site.
	Allow small quantities to evaporate.
	DO NOT incinerate or puncture aerosol cans.
	 Bury residues and emptied aerosol cans at an approved site.

SECTION 14 TRANSPORT INFORMATION

Labels Required		
	PLANMARE 2	
Marine Pollutant	NO	
HAZCHEM	2YE	
Land transport (ADG)		
UN number	1950	
Packing group	Not Applicable	
UN proper shipping name	AEROSOLS	
Environmental hazard	No relevant data	
Transport hazard class(es)	Class 2.1 Subrisk Not Applicable	

 Special precautions for user
 Special provisions
 63 190 277 327 344

 Limited quantity
 See SP 277

Air transport (ICAO-IATA / DGR)

UN number	1950			
Packing group	Not Applicable			
UN proper shipping name	Aerosols, flammable			
Environmental hazard	No relevant data			
Transport hazard class(es)	ICAO/IATA Class	2.1		
	ICAO / IATA Subrisk	Not Applicable		
	ERG Code	10L		
Special precautions for user	Special provisions		A145A167A802	
	Cargo Only Packing I	nstructions	203	
	Cargo Only Maximum Qty / Pack		150 kg	
	Passenger and Cargo Packing Instructions		203	
	Passenger and Cargo Maximum Qty / Pack		75 kg	
	Passenger and Cargo	Limited Quantity Packing Instructions	Y203	
	Passenger and Cargo	Limited Maximum Qty / Pack	30 kg G	

Sea transport (IMDG-Code / GGVSee)

UN number	1950		
Packing group	Not Applicable		
UN proper shipping name	AEROSOLS		
Environmental hazard	No relevant data		
Transport hazard class(es)	IMDG Class 2.1		
	IMDG Subrisk See SP63		
Special precautions for user	EMS Number F-D , S-U		
	Special provisions 63 190 277 327 344 959		
	Limited Quantities See SP277		

SECTION 15 REGULATORY INFORMATION

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

isopropanol(67-63-0) is found on the following regulatory lists	"Australia Exposure Standards","International Agency for Research on Cancer (IARC) - Agents Classified by the IARC Monographs","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"
hydrocarbon propellant(68476-85-7.) is found on the following regulatory lists	"Australia Exposure Standards","Australia Inventory of Chemical Substances (AICS)","Australia Hazardous Substances Information System - Consolidated Lists"

SECTION 16 OTHER INFORMATION

Other information

Ingredients with multiple cas numbers

Name	CAS No
hydrocarbon propellant	68476-85-7., 68476-86-8.

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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