R-FOAM 100 PART A

Barnes Products P/L

Chemwatch: **5246-01** Version No: **5.1**

Safety Data Sheet according to WHS Regulations (Hazardous Chemicals) Amendment 2020 and ADG requirements

Chemwatch Hazard Alert Code: 1

Issue Date: **17/03/2023**Print Date: **29/03/2023**S.GHS.AUS.EN.E

SECTION 1 Identification of the substance / mixture and of the company / undertaking

Product Identifier

Product name	R-FOAM 100 PART A
Chemical Name	Not Applicable
Synonyms	R-FOAM 100 POLYOL
Chemical formula	Not Applicable
Other means of identification	Not Available

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

Relevant identified uses	Raw material for production of rigid polyurethane foam.
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Details of the manufacturer or supplier of the safety data sheet

Registered company name	Barnes Products P/L
Address	5 Greenhills Avenue Moorebank NSW 2170 Australia
Telephone	+61 2 9793 7555
Fax	+61 2 9793 7091
Website	http://www.barnes.com.au/
Email	sales@barnes.com.au

Emergency telephone number

Association / Organisation	Barnes Products Pty Ltd
Emergency telephone numbers	+61 2 9793 7555 Business Hours
Other emergency telephone numbers	Poisons Information Centre 13 1126 after hours

SECTION 2 Hazards identification

Classification of the substance or mixture

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

Chemwatch Hazard Ratings

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

Poisons Schedule	Not Applicable
Classification [1]	Serious Eye Damage/Eye Irritation Category 2B
Legend:	1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI

Label elements

Hazard statement(s)

H320 Causes eye irritation.

Precautionary statement(s) Prevention

P264 Wash all exposed external body areas thoroughly after handling.

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.
P337+P313	If eye irritation persists: Get medical advice/attention.

Precautionary statement(s) Storage

Not Applicable

Precautionary statement(s) Disposal

Not Applicable

SECTION 3 Composition / information on ingredients

Substances

See section below for composition of Mixtures

Mixtures

CAS No	%[weight]	%[weight] Name	
1717-00-6	<10 <u>1,1-dichloro-1-fluoroethane</u>		
Not Available	balance Ingredients determined not to be hazardous		
Legend: 1. Classified by Chemwatch; 2. Classification drawn from HCIS; 3. Classification drawn from Regulation (EU) No 1272/2008 - Annex VI; 4. Classification drawn from C&L * EU IOELVs available			

SECTION 4 First aid measures

Description of first aid measures

Eye Contact	If this product comes in contact with the eyes: Number Wash out immediately with fresh running water. Ensure complete irrigation of the eye by keeping eyelids apart and away from eye and moving the eyelids by occasionally lifting the upper and lower lids. Seek medical attention without delay; if pain persists or recurs seek medical attention. Removal of contact lenses after an eye injury should only be undertaken by skilled personnel.
Skin Contact	Remove all contaminated clothing, including footwear. Wash thoroughly all affected areas with water and soap. Wash contaminated clothing thoroughly before reuse or destroy. If symptoms persist, seek medical attention.
Inhalation	 If fumes, aerosols or combustion products are inhaled remove from contaminated area. Other measures are usually unnecessary. If symptoms persist, seek medical attention.
Ingestion	 If swallowed do NOT induce vomiting. If vomiting occurs, lean patient forward or place on left side (head-down position, if possible) to maintain open airway and prevent aspiration. Observe the patient carefully. Never give liquid to a person showing signs of being sleepy or with reduced awareness; i.e. becoming unconscious. Give water to rinse out mouth, then provide liquid slowly and as much as casualty can comfortably drink. Seek medical advice.

Indication of any immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5 Firefighting measures

Extinguishing media

- ► Foam.
- Dry chemical powder.
- ▶ BCF (where regulations permit).
- Carbon dioxide.

Water spray or fog - Large fires only.

Do not use water jets.

Special hazards arising from the substrate or mixture

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Fire Incompatibility	Avoid contamination with oxidising agents i.e. nitrates, oxidising acids, chlorine bleaches, pool chlorine etc. as ignition may result
Advice for firefighters	
	► Alert Fire Brigade and tell them location and nature of hazard.

Wear full body protective clothing with breathing apparatus. Prevent, by any means available, spillage from entering drains or water course. Use water delivered as a fine spray to control fire and cool adjacent area. Avoid spraying water onto liquid pools. DO NOT approach containers suspected to be hot.

Cool fire exposed containers with water spray from a protected location.

Combustible.Slight fire hazard when exposed to heat or flame.

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

 $\ ^{\blacktriangleright}$ On combustion, may emit toxic fumes of carbon monoxide (CO).

May emit acrid smoke.

Mists containing combustible materials may be explosive.

Combustion products include: carbon dioxide (CO2)

other pyrolysis products typical of burning organic material.

May emit corrosive fumes.

HAZCHEM No

Not Applicable

SECTION 6 Accidental release measures

Personal precautions, protective equipment and emergency procedures

See section 8

Environmental precautions

Fire/Explosion Hazard

See section 12

Methods and material for containment and cleaning up

	<u> </u>
Minor Spills	 Remove all ignition sources. Clean up all spills immediately. Avoid breathing vapours and contact with skin and eyes. Control personal contact with the substance, by using protective equipment. Contain and absorb spill with sand, earth, inert material or vermiculite. Wipe up. Place in a suitable, labelled container for waste disposal.
Major Spills	Moderate hazard. Clear area of personnel and move upwind. Alert Fire Brigade and tell them location and nature of hazard. Wear breathing apparatus plus protective gloves. Prevent, by any means available, spillage from entering drains or water course. No smoking, naked lights or ignition sources. Increase ventilation.

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

SECTION 7 Handling and storage

Precautions for safe handling

Precautions for safe nand	aling
Safe handling	 Avoid all personal contact, including inhalation. Wear protective clothing when risk of exposure occurs. Use in a well-ventilated area. Prevent concentration in hollows and sumps. DO NOT enter confined spaces until atmosphere has been checked. Avoid smoking, naked lights or ignition sources. Avoid contact with incompatible materials. DO NOT allow clothing wet with material to stay in contact with skin
Other information	 Store in original containers. Keep containers securely sealed. No smoking, naked lights or ignition sources. Store in a cool, dry, well-ventilated area. Store away from incompatible materials and foodstuff containers.

- Protect containers against physical damage and check regularly for leaks.
- ▶ Observe manufacturer's storage and handling recommendations contained within this SDS.

Conditions for safe storage, including any incompatibilities

Suitable container	Packaging as recommended by manufacturer.
Storage incompatibility	Avoid reaction with oxidising agents

SECTION 8 Exposure controls / personal protection

Control parameters

Occupational Exposure Limits (OEL)

INGREDIENT DATA

Not Available

Emergency Limits

Ingredient	TEEL-1	TEEL-2	TEEL-3
1,1-dichloro-1-fluoroethane	Not Available	Not Available	Not Available

Ingredient	Original IDLH	Revised IDLH
1,1-dichloro-1-fluoroethane	Not Available	8,245 mg/m3 / 1,700 ppm

Exposure controls

Appropriate engineering 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.

Individual protection measures, such as personal protective equipment











Eye and face protection

► Safety glasses with side shields.

► Chemical goggles.

Contact lenses may pose a special hazard; soft contact lenses may absorb and concentrate irritants. A written policy document, describing the wearing of lenses or restrictions on use, should be created for each workplace or task. This should include a review of lens absorption and adsorption for the class of chemicals in use and an account of injury experience. Medical and first-aid personnel should be trained in their removal and suitable equipment should be readily available. In the event of chemical exposure, begin eye irrigation immediately and remove contact lens as soon as practicable.

Skin protection

See Hand protection below

► Wear chemical protective gloves, e.g. PVC.

Hands/feet protection

• Wear safety footwear or safety gumboots, e.g. Rubber

The selection of suitable gloves does not only depend on the material, but also on further marks of quality which vary from manufacturer to manufacturer. Where the chemical is a proportion of soveral substances, the resistance of the glove material.

manufacturer to manufacturer. Where the chemical is a preparation of several substances, the resistance of the glove material can not be calculated in advance and has therefore to be checked prior to the application.

The exact break through time for substances has to be obtained from the manufacturer of the protective gloves and has to be observed when making a final choice.

Personal hygiene is a key element of effective hand care. Gloves must only be worn on clean hands. After using gloves, hands should be washed and dried thoroughly. Application of a non-perfumed moisturiser is recommended.

Body protection

See Other protection below

Other protection

- Overalls.
- P.V.C apron.Barrier cream.
- Skin cleansing cream.
- ► Eye wash unit.

Respiratory protection

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

Selection of the Class and Type of respirator will depend upon the level of breathing zone contaminant and the chemical nature of the contaminant. Protection Factors (defined as the ratio of contaminant outside and inside the mask) may also be important.

Required minimum protection	Maximum gas/vapour concentration present in air p.p.m. (by	Half-face	Full-Face
factor	volume)	Respirator	Respirator

up to 10	1000	AX-AUS / Class1	-
up to 50	1000	-	AX-AUS / Class 1
up to 50	5000	Airline *	-
up to 100	5000	-	AX-2
up to 100	10000	-	AX-3
100+			Airline**

^{* -} Continuous Flow ** - Continuous-flow or positive pressure demand

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)

- ▶ Cartridge respirators should never be used for emergency ingress or in areas of unknown vapour concentrations or oxygen content.
- The wearer must be warned to leave the contaminated area immediately on detecting any odours through the respirator. The odour may indicate that the mask is not functioning properly, that the vapour concentration is too high, or that the mask is not properly fitted. Because of these limitations, only restricted use of cartridge respirators is considered appropriate.
- Cartridge performance is affected by humidity. Cartridges should be changed after 2 hr of continuous use unless it is determined that the humidity is less than 75%, in which case, cartridges can be used for 4 hr. Used cartridges should be discarded daily, regardless of the length of time used

SECTION 9 Physical and chemical properties

Information on basic physical and chemical properties

Appearance	Clear amber liquid; slightly mixes with water.		
Physical state	Liquid	Relative density (Water = 1)	1.13 @20C
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 (°C)	Not Available
Melting point / freezing point (°C)	Not Available	Viscosity (cSt)	Not Available
Initial boiling point and boiling range (°C)	Decomposes	Molecular weight (g/mol)	Not Applicable
Flash point (°C)	>190 (PMCC)	Taste	Not Available
Evaporation rate	Not Available	Explosive properties	Not Available
Flammability	Not Applicable	Oxidising properties	Not Available
Upper Explosive Limit (%)	Not Available	Surface Tension (dyn/cm or mN/m)	Not Available
Lower Explosive Limit (%)	Not Available	Volatile Component (%vol)	Not Available
Vapour pressure (kPa)	64 @20C	Gas group	Not Available
Solubility in water	Partly miscible	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	 Unstable in the presence of incompatible materials. 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

In	ha	led

There is some evidence to suggest that the material can cause respiratory irritation in some persons. The body's response to such irritation can cause further lung damage.

Ingestion	The material has NOT been classified by EC Directives or other classification systems as "harmful by ingestion". This is because of the lack of corroborating animal or human evidence.			
Skin Contact	There is some evidence to suggest that this material can cause	inflammation of the skin on contact in some persons.		
Eye	There is some evidence to suggest that this material can cause	eye irritation and damage in some persons.		
Chronic	Long-term exposure to the product is not thought to produce chronic effects adverse to the health (as classified by EC Directives using animal models); nevertheless exposure by all routes should be minimised as a matter of course.			
D 50 411 400 D4 D7 4	TOXICITY	IRRITATION		
R-FOAM 100 PART A	Not Available	Not Available		
	TOXICITY	IRRITATION		
44 11 11 45 4	Dermal (rabbit) LD50: >2000 mg/kg ^[2]	Not Available		
1,1-dichloro-1-fluoroethane	Inhalation(Rat) LC50: 239.9 mg/L4h ^[2]			
	Oral (Rat) LD50: >5000 mg/kg ^[2]			
Legend:	Value obtained from Europe ECHA Registered Substances - Acute toxicity 2. Value obtained from manufacturer's SDS. Unless otherwise specified data extracted from RTECS - Register of Toxic Effect of chemical Substances			

CFCs are absorbed following inhalation, oral ingestion, or through skin contact. Inhalation is the most important route of entry, and exhalation is the most significant route of elimination. They can cause irregular heartbeat, airway irritation, tingling sensation, humming in the ears, apprehension, slurred speech and decreased performance in psychological tests and consciousness. There could also be reduced lung function. Skin application causes various degrees of skin irritation but no other significant effects. They have no potential to cause cancer or mutation.

For dichlorotrifloroethane (HCFC -123) and dichloropentafluoropropane (HCFC-225)

Prolonged inhalation of high concentrations of HCFC-123 vapour may cause temporary nervous system depression with anesthetic effects such as dizziness, headache, confusion, incoordination, and loss of consciousness. With gross overexposure (greater than 20% concentration), a temporary alteration of the heart's electrical activity with irregular pulse, palpitations, or inadequate circulation may occur. Similar effects are observed in overexposure to CFC-11. Inhalation may cause liver effects with extended high-level exposures. Intentional misuse or deliberate inhalation of HCFC-123 may cause death without warning. Exposure in the range of 650 to 1,000 ppm with HCFC-225ca produced effects on the liver in rodents, but a minor effect in a primate.

1,1-DICHLORO-1-FLUOROETHANE

identified.

cholesterol and glucose.

Exposures in the range of 1,000 to 5,000 ppm with HCFC-225cb resulted in only marginal effects in rodents or a primate If HCFC-123 vapours are inhaled at a concentration of 20,000 ppm or greater, the heart may become sensitized to adrenaline leading to cardiac irregularities and, possibly, to cardiac arrest. Similar effects are observed with CFC-11 at concentrations in air of 3,500 ppm or greater. The likelihood of these cardiac problems increases under physical or emotional stress.

Disinfection byproducts (DBPs) are formed when disinfectants such as chlorine, chloramines and ozone react with organic and inorganic matter in water. Animal studies have shown that some DBPs cause cancer. To date, several hundred DBPs have been

Numerous haloalkanes and haloalkenes have been tested for cancer-causing and mutation-causing activities. In general, the potential to cause genetic toxicity is dependent on the nature, number and position of halogen(s) and the size of the molecule. Haloalkenes are of concern because of the potential to generate genetically toxic intermediates after epoxidation. The concern for haloalkenes may be diminished if the double bond is internal or sterically hindered.

The cancer concern levels of the 14 haloalkenes and haloalkanes, have been rated, based on available screening cancer bioassays and data on genetic toxicity. Some individuals may be genetically more susceptible to brominated THMs than others. Six, two and one haloalkanes/haloalkenes have been given low-moderate, marginal and low concern, respectively. Dichlorofluoroethane has low acute toxicity at low-level oral or skin exposures. It can be a mild eye irritant. There was no effect on development at low doses. However, at higher doses there may be a decrease in body weight, with increased risk of testicular enlargement and tumour formation, growth retardation and death. Repeated inhalational exposure may increase levels of

These substances have low potential for accumulation in the body. HCFC 141b is not readily broken down in the body. The predominant degradation of HCFC 141b will occur in the air, but at a very slow rate. Acute environmental toxicity has been documented with death of zebra fish, daphnia, and algae.

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

Legend: X − Data either not available or does not fill the criteria for classification

Data available to make classification

SECTION 12 Ecological information

Toxicity

R-FOAM 100 PART A	Endpoint	Test Duration (hr)	Species	Value	Source

	Not Available	Not Available	Not Available	Not Available	Not Available
1,1-dichloro-1-fluoroethane	Endpoint	Test Duration (hr)	Species	Value	Source
	LC50	96h	Fish	126mg/l	2
	EC50	72h	Algae or other aquatic plants	~24mg/l	2
	EC50	96h	Algae or other aquatic plants	>44mg/l	2
	EC50	48h	Crustacea	31mg/L	5
	NOEC(ECx)	72h	Algae or other aquatic plants	~7mg/l	2
Legend:	Extracted from 1. IUCLID Toxicity Data 2. Europe ECHA Registered Substances - Ecotoxicological Information - Aquatic Toxicity 4. US EPA, Ecotox database - Aquatic Toxicity Data 5. ECETOC Aquatic Hazard Assessment Data 6. NITE (Japan) - Bioconcentration Data 7. METI (Japan) - Bioconcentration Data 8. Vendor Data				

DO NOT discharge into sewer or waterways.

Persistence and degradability

Ingredient	Persistence: Water/Soil	Persistence: Air
1,1-dichloro-1-fluoroethane	HIGH	HIGH

Bioaccumulative potential

Ingredient	Bioaccumulation	
1,1-dichloro-1-fluoroethane	LOW (LogKOW = 2.3659)	

Mobility in soil

Ingredient	Mobility
1,1-dichloro-1-fluoroethane	LOW (KOC = 48.64)

SECTION 13 Disposal considerations

Waste treatment methods

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.

disposal

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

SECTION 14 Transport information

Labels Required

Marine Pollutant	NO
HAZCHEM	Not Applicable

Land transport (ADG): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Air transport (ICAO-IATA / DGR): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Sea transport (IMDG-Code / GGVSee): NOT REGULATED FOR TRANSPORT OF DANGEROUS GOODS

Transport in bulk according to Annex II of MARPOL and the IBC code

Not Applicable

Transport in bulk in accordance with MARPOL Annex V and the IMSBC Code

Product name	Group
1,1-dichloro-1-fluoroethane	Not Available

Transport in bulk in accordance with the IGC Code

Product name	Ship Type
1,1-dichloro-1-fluoroethane	Not Available

SECTION 15 Regulatory information

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

1,1-dichloro-1-fluoroethane is found on the following regulatory lists

Australia Hazardous Chemical Information System (HCIS) - Hazardous Chemicals

Australian Inventory of Industrial Chemicals (AIIC)

National Inventory Status

National Inventory	Status	
Australia - AIIC / Australia Non-Industrial Use	Yes	
Canada - DSL	Yes	
Canada - NDSL	No (1,1-dichloro-1-fluoroethane)	
China - IECSC	Yes	
Europe - EINEC / ELINCS / NLP	Yes	
Japan - ENCS	Yes	
Korea - KECI	Yes	
New Zealand - NZIoC	Yes	
Philippines - PICCS	Yes	
USA - TSCA	Yes	
Taiwan - TCSI	Yes	
Mexico - INSQ	Yes	
Vietnam - NCI	Yes	
Russia - FBEPH	Yes	
Legend:	Yes = All CAS declared ingredients are on the inventory No = One or more of the CAS listed ingredients are not on the inventory. These ingredients may be exempt or will require registration.	

SECTION 16 Other information

Revision Date	17/03/2023
Initial Date	02/03/2017

SDS Version Summary

Version	Date of Update	Sections Updated
4.1	23/12/2022	Classification review due to GHS Revision change.
5.1	17/03/2023	Hazards identification - Classification, Composition / information on ingredients - Ingredients, Identification of the substance / mixture and of the company / undertaking - Supplier Information, Identification of the substance / mixture and of the company / undertaking - Synonyms, Name

Other information

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.

The 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.

Definitions and abbreviations

PC-TWA: Permissible Concentration-Time Weighted Average

PC-STEL: Permissible Concentration-Short Term Exposure Limit

IARC: International Agency for Research on Cancer

ACGIH: American Conference of Governmental Industrial Hygienists

STEL: Short Term Exposure Limit

TEEL: Temporary Emergency Exposure Limit。

IDLH: Immediately Dangerous to Life or Health Concentrations

ES: Exposure Standard
OSF: Odour Safety Factor

NOAEL :No Observed Adverse Effect Level LOAEL: Lowest Observed Adverse Effect Level

TLV: Threshold Limit Value LOD: Limit Of Detection OTV: Odour Threshold Value BCF: BioConcentration Factors BEI: Biological Exposure Index

AIIC: Australian Inventory of Industrial Chemicals

DSL: Domestic Substances List NDSL: Non-Domestic Substances List

IECSC: Inventory of Existing Chemical Substance in China

EINECS: European INventory of Existing Commercial chemical Substances

ELINCS: European List of Notified Chemical Substances

NLP: No-Longer Polymers

ENCS: Existing and New Chemical Substances Inventory

KECI: Korea Existing Chemicals Inventory NZIoC: New Zealand Inventory of Chemicals

PICCS: Philippine Inventory of Chemicals and Chemical Substances

TSCA: Toxic Substances Control Act
TCSI: Taiwan Chemical Substance Inventory
INSQ: Inventario Nacional de Sustancias Químicas

NCI: National Chemical Inventory

FBEPH: Russian Register of Potentially Hazardous Chemical and Biological Substances

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TEL (+61 3) 9572 4700.