



## SAFETY DATA SHEET

## AFFF 3% M C6

The safety data sheet is in accordance with Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH)

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

Date issued	18.08.2014
Revision date	16.04.2018

### 1.1. Product identifier

Product name	AFFF 3% M C6
Article no.	V-AFFF3M/

### 1.2. Relevant identified uses of the substance or mixture and uses advised against

Use of the substance / preparation	Appliance protection.
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### 1.3. Details of the supplier of the safety data sheet

#### Downstream user

Company name	Viking S.A.
Postal address	Z.I. Haneboesch
Postcode	L-4562
City	Differdange/Nieder Korn
Country	Luxembourg
Telephone number	+352 58 37 37 1
Fax	+352 58 37 36
Website	<a href="http://www.viking-emea.com">http://www.viking-emea.com</a>

### 1.4. Emergency telephone number

Emergency telephone	Telephone number: +44 1273 289451 Description: NCEC CareChem24
Identification, comments	Additional Emergency Phone Number in Section 16

## SECTION 2: Hazards identification

## 2.1. Classification of substance or mixture

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]      Eye Irrit. 2; H319; Calculation method

## 2.2. Label elements

### Hazard pictograms (CLP)



Composition on the label	Diethylene glycol monobutyl ether 10 -19 %, Sodium decyl sulphate 1 -2,9 %, Tolyltriazole, sodium salt 0,1 -0,5 %
Signal word	Warning
Hazard statements	H319 Causes serious eye irritation.
Precautionary statements	P264 Wash thoroughly after handling. P280 Wear protective gloves / protective clothing / eye protection / face protection. 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.

## 2.3. Other hazards

PBT / vPvB	The product does not meet the criteria for PBT (persistent / bioaccumulative / toxic) or vPvB (very persistent / very bioaccumulative).
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## SECTION 3: Composition / information on ingredients

### 3.2. Mixtures

Substance	Identification	Classification	Contents
Diethylene glycol monobutyl ether	CAS No.: 112-34-5 EC No.: 203-961-6 Index No.: 603-096-00-8	Eye Irrit. 2; H319;	10 -19 %
Ethenediol	CAS No.: 107-21-1 EC No.: 203-473-3 Index No.: 603-027-00-1 REACH Reg. No.: 01-2119456816-28	Acute Tox. 4;H302	1 -5 %
Diethylene glycol monomethyl ether	CAS No.: 111-77-3 EC No.: 203-906-6 Index No.: 603-107-00-6 REACH Reg. No.: 01-2119475100-52	Repr. 2;H361d*	0,1 -0,9 %
Methanol	CAS No.: 67-56-1 EC No.: 200-659-6 Index No.: 603-001-00-X REACH Reg. No.: 01-2119392409-28	Flam. Liq. 2; H225 Acute tox. 3; H331 Acute tox. 3; H311 Acute tox. 3; H301	0,1 -0,5 %
Alkyl polyglycoside	CAS No.: 68515-73-1 EC No.: 500-220-1 REACH Reg. No.:	Eye Dam. 1;H318	1 -2,9 %

	01-2119488530-36-XXXX		
Sodium decyl sulphate	CAS No.: 142-87-0	Acute tox. 4; H302	1 -2,9 %
	EC No.: 205-568-5	Eye Dam. 1; H318	
	REACH Reg. No.:	Skin Irrit. 2; H315	
	01-2119970328-30	Aquatic Chronic 3; H412	
Tolyltriazole, sodium salt	CAS No.: 64665-57-2	Acute tox. 4; H302	0,1 -0,5 %
	EC No.: 265-004-9	Skin Corr 1B; H314	
	REACH Reg. No.:	Eye Dam. 1; H318	
	01-2119980062-42	Aquatic Chronic 2; H411	

## SECTION 4: First aid measures

### 4.1. Description of first aid measures

General	Provide rest, warmth and fresh air. Get medical attention if any discomfort continues.
Inhalation	Fresh air and rest. Get medical attention if any discomfort continues.
Skin contact	Remove contaminated clothing and launder thoroughly before re-use. Wash skin thoroughly with soap and water for several minutes. Get medical attention if any discomfort continues.
Eye contact	Immediately rinse with plenty of lukewarm water for at least 5 minutes. Remove any contact lenses and open eyelids widely. Contact physician if discomfort continues.
Ingestion	Immediately rinse mouth and drink plenty of water. Keep person under observation. If person becomes uncomfortable seek hospital and bring these instructions.
Recommended personal protective equipment for first aid responders	No recommendation given.

### 4.2. Most important symptoms and effects, both acute and delayed

General symptoms and effects	Causes eye irritation. After extensive contact, may cause irritation to skin. Ingestion of large quantities may cause nausea, vomiting, dizziness, confusion, lost of consciousness.
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### 4.3. Indication of any immediate medical attention and special treatment needed

Medical treatment	Treat Symptomatically.
Medical monitoring for delayed effects	No recommendation given.
Separate first aid equipment	No recommendation given.

## SECTION 5: Firefighting measures

### 5.1. Extinguishing media

Suitable extinguishing media This product is not flammable.

### 5.2. Special hazards arising from the substance or mixture

Fire and explosion hazards	None.
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### 5.3. Advice for firefighters

Fire fighting procedures Follow the general fire precautions indicated by the workplace.

## SECTION 6: Accidental release measures

### 6.1. Personal precautions, protective equipment and emergency procedures

Personal protection measures Avoid contact with skin and eyes. Do not breathe vapour. For personal protection, see section 8.

### 6.2. Environmental precautions

Environmental precautionary measures Prevent discharge of larger quantity to drain. Avoid discharge to the aquatic environment.

### 6.3. Methods and material for containment and cleaning up

Clean up Absorb in vermiculite, dry sand or earth and place into containers. Flush area clean with lots of water. Be aware of potential for surfaces to become slippery. Further handling of waste – see section 13.

### 6.4. Reference to other sections

Additional information See Sections 8 and 13 for information concerning protective equipment and waste treatment methods.

## SECTION 7: Handling and storage

### 7.1. Precautions for safe handling

Handling Avoid contact with skin and eyes. Avoid inhalation of vapours. Wash hands before breaks and before smoking, eating or drinking. Wash hands and contaminated areas with water and soap after finished work. Container must be kept tightly closed.

### 7.2. Conditions for safe storage, including any incompatibilities

Storage Store at moderate temperatures in dry, well ventilated area. Keep container tightly closed. Protect against direct sunlight.

### 7.3. Specific end use(s)

Specific use(s) See EWC-code under Section 13.

## SECTION 8: Exposure controls / personal protection

### 8.1. Control parameters

Substance	Identification	Value	TWA Year
Diethylene glycol monobutyl ether	CAS No.: 112-34-5		
Ethenediol	CAS No.: 107-21-1	TWA (8h) : 20 ppm, vapour TWA (8h) : 52 mg/m <sup>3</sup> , vapour <b>OEL short term value</b> Value: 40 ppm vapour	

		OEL short term value
		Value: 104 mg/m <sup>3</sup> vapour
Diethylene glycol monomethyl ether	CAS No.: 111-77-3	

## DNEL / PNEC

Substance	Diethylene glycol monomethyl ether
PNEC	<p><b>Comments:</b> Predicted No Effect Concentration</p> <p>12 mg/L aquatic organisms</p> <p>100 mg/L microorganisms</p> <p>1,4 mg/kg terrestrial environment</p> <p>90 mg/kg predators</p>
Substance	Alkyl polyglycoside
DNEL	<p><b>Group:</b> Consumer  <b>Route of exposure:</b> Long term (repeated) – Inhalation – Systemic effect  <b>Value:</b> 124 mg/m<sup>3</sup></p> <p><b>Group:</b> Worker  <b>Route of exposure:</b> Long term (repeated) – Inhalation – Systemic effect  <b>Value:</b> 420 mg/m<sup>3</sup></p> <p><b>Group:</b> Worker  <b>Route of exposure:</b> Long term (repeated) – Dermal – Systemic effect  <b>Value:</b> 595000 mg/kg bw/day</p> <p><b>Group:</b> Consumer  <b>Route of exposure:</b> Long term (repeated) – Oral – Systemic effect  <b>Value:</b> 35,7 mg/kg bw/day</p> <p><b>Group:</b> Consumer  <b>Route of exposure:</b> Long term (repeated) – Dermal – Systemic effect  <b>Value:</b> 357000 mg/kg bw/day</p>

## 8.2. Exposure controls

### Safety signs



### Precautionary measures to prevent exposure

Appropriate engineering controls	An eye wash bottle must be available at the work site.
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### Eye / face protection

Suitable eye protection	Wear approved chemical safety goggles where eye exposure is reasonably probable.
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### Hand protection

Skin- / hand protection, long term contact	In cases of prolonged, repeated or extensive exposure, wear protective gloves.
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Suitable gloves type                      Rubber or plastic.

### Skin protection

Suitable protective clothing            Use protective clothes in order to avoid skin contact.

### Respiratory protection

Respiratory protection necessary at    In case of inadequate ventilation and work of brief duration, use suitable respiratory equipment.

### Hygiene / environmental

Specific hygiene measures                No specific hygiene procedures noted, but good personal hygiene practices are always advisable, especially when working with chemicals.

## SECTION 9: Physical and chemical properties

### 9.1. Information on basic physical and chemical properties

Physical state	Clear, yellowish liquid.
Colour	Yellowish.
Odour	Slight odour.
Odour limit	Comments: No information.
pH	Status: In delivery state Value: 6,5 – 8,5
Melting point / melting range	Comments: No information.
Freezing point	Value: -5 °C
Boiling point / boiling range	Comments: No information.
Flash point	Comments: Not relevant.
Evaporation rate	Comments: No information.
Flammability (solid, gas)	Not relevant.
Explosion limit	Comments: Product is not explosive.
Vapour pressure	Comments: No information.
Vapour density	Comments: No information.
Specific gravity	Value: ~ 1,03 g/ml
Solubility	Comments: Soluble in water.
Partition coefficient: n-octanol/water	Comments: No information.
Spontaneous combustability	Comments: Not relevant.
Decomposition temperature	Comments: No information.
Viscosity	Value: ≤ 20 mPas Method: Brookfield DV
Explosive properties	Product is not explosive.

Oxidising properties Does not meet the criteria for oxidising.

## 9.2. Other information

## SECTION 10: Stability and reactivity

### 10.1. Reactivity

Reactivity Stable product under normal conditions of handling and storage.

### 10.2. Chemical stability

Stability Stable product under normal conditions of handling and storage.

### 10.3. Possibility of hazardous reactions

Possibility of hazardous reactions Stable product under normal conditions of handling and storage.

### 10.4. Conditions to avoid

Conditions to avoid Not known under normal conditions of handling and storage.

### 10.5. Incompatible materials

Materials to avoid Alkali earth metals.

### 10.6. Hazardous decomposition products

Hazardous decomposition products Thermal decomposition or combustion may liberate carbon oxides and other toxic gases or vapours.

## SECTION 11: Toxicological information

### 11.1. Information on toxicological effects

Substance Ethanediol

Acute toxicity  
**Type of toxicity:** Acute  
**Effect tested:** LD50  
**Route of exposure:** Dermal  
**Value:** = 9530 mg/kg bw  
**Animal test species:** Rabbit  
**Comments:** Non-acute toxic.

Substance Diethylene glycol monomethyl ether

Acute toxicity  
**Type of toxicity:** Acute  
**Effect tested:** LC50  
**Route of exposure:** Oral  
**Value:** = 4000 mg/kg bw  
**Animal test species:** Rat  
**Comments:** Non-acute toxic.  
**Type of toxicity:** Acute  
**Effect tested:** LD50

	<p><b>Route of exposure:</b> Dermal  <b>Value:</b> = 6720 mg/kg bw  <b>Animal test species:</b> Rabbit  <b>Comments:</b> Non-acute toxic.</p>
Substance	Alkyl polyglycoside
Acute toxicity	<p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Oral  <b>Value:</b> &gt; 2000 mg/kg  <b>Animal test species:</b> Rat  <b>Test reference:</b> OECD 401</p> <p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Dermal  <b>Value:</b> &gt; 2000 mg/kg  <b>Animal test species:</b> Rabbit  <b>Test reference:</b> OECD 423</p>
Substance	Sodium decyl sulphate
Acute toxicity	<p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Oral  <b>Value:</b> = 1950 mg/kg bw  <b>Animal test species:</b> Rat  <b>Comments:</b> Hazardous if ingested.</p>
Substance	Tolyltriazole, sodium salt
Acute toxicity	<p><b>Type of toxicity:</b> Acute  <b>Effect tested:</b> LD50  <b>Route of exposure:</b> Oral  <b>Value:</b> 630 -1980 mg/kg bw  <b>Animal test species:</b> Rat  <b>Comments:</b> Hazardous if ingested.</p>

### Other information regarding health hazards

Skin contact	In case of prolonged contact with skin, may cause irritation.
Eye contact	Causes serious eye irritation.
Ingestion	In case of ingestion of large quantities may cause nausea, vomiting, dizziness, confusion, loss of consciousness.
Sensitisation	No known chronic or acute health risks.
Mutagenicity	No known chronic or acute health risks.
Carcinogenicity, other information	No known chronic or acute health risks.
Reproductive toxicity	No known chronic or acute health risks.

### Symptoms of exposure

In case of ingestion	Ingestion of large quantities may cause cause nausea, vomiting, dizziness, confusion,
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loss of consciousness.

In case of skin contact

Irritation is possible in case of prolonged contact with skin.

In case of eye contact

Irritation of eyes and mucous membrane.

## SECTION 12: Ecological information

### 12.1. Toxicity

Substance	Ethanediol
Acute aquatic, fish	<b>Toxicity type:</b> Acute <b>Value:</b> = 18500 mg/l <b>Effect dose concentration :</b> LC50 <b>Exposure time:</b> 96 hour(s) <b>Species:</b> Oncorhynchus mykiss <b>Comments:</b> Not hazardous for environment.
Substance	Diethylene glycol monomethyl ether
Acute aquatic, fish	<b>Toxicity type:</b> Acute <b>Value:</b> = 1000 mg/l <b>Effect dose concentration :</b> LC50 <b>Exposure time:</b> = 96 h <b>Species:</b> Oncorhynchus mykiss <b>Comments:</b> Not hazardous for environment.
Substance	Methanol
Acute aquatic, fish	<b>Toxicity type:</b> Acute <b>Value:</b> = 15400 mg/l <b>Effect dose concentration :</b> LC50 <b>Exposure time:</b> = 96 hour(s) <b>Species:</b> Lepomis macrochirus <b>Comments:</b> Not hazardous for environment.
Substance	Alkyl polyglycoside
Acute aquatic, fish	<b>Value:</b> ~ 20 mg/l <b>Test duration:</b> 96 hrs <b>Species:</b> Cyprinodon Variegatus <b>Method:</b> OCDE 203
Substance	Ethanediol
Acute aquatic, algae	<b>Toxicity type:</b> Acute <b>Value:</b> = 2000 mg/l <b>Effect dose concentration :</b> IC50 <b>Exposure time:</b> = 72 hour(s) <b>Comments:</b> Not hazardous for environment.
Substance	Diethylene glycol monomethyl ether
Acute aquatic, algae	<b>Toxicity type:</b> Acute <b>Value:</b> > 500 mg/l <b>Effect dose concentration :</b> IC50 <b>Exposure time:</b> 72 hour(s) <b>Species:</b> Scenedesmus subspicatus <b>Comments:</b> Not hazardous for environment.

Substance	Methanol
Acute aquatic, algae	<b>Toxicity type:</b> Acute <b>Value:</b> = 441 mg/l <b>Effect dose concentration :</b> IC50 <b>Exposure time:</b> = 72 hour(s) <b>Comments:</b> Not hazardous for environment.
Substance	Alkyl polyglycoside
Acute aquatic, algae	<b>Value:</b> ~ 21 mg/l <b>Test duration:</b> 72 hrs <b>Species:</b> Skeletonerna Costatum <b>Method:</b> ISO 10253
Substance	Ethenediol
Acute aquatic, Daphnia	<b>Toxicity type:</b> Acute <b>Value:</b> = 51000 mg/l <b>Effect dose concentration :</b> EC50 <b>Exposure time:</b> = 48 <b>Species:</b> Daphina magna <b>Comments:</b> Not hazardous for environment.
Substance	Diethylene glycol monomethyl ether
Acute aquatic, Daphnia	<b>Toxicity type:</b> Acute <b>Value:</b> = 1192 mg/l <b>Effect dose concentration :</b> EC50 <b>Exposure time:</b> = 48 hour(s) <b>Species:</b> D. magna <b>Comments:</b> Not hazardous for environment.
Substance	Methanol
Acute aquatic, Daphnia	<b>Toxicity type:</b> Acute <b>Value:</b> = 24500 mg/l <b>Effect dose concentration :</b> EC50 <b>Exposure time:</b> = 48 hour(s) <b>Species:</b> D.magna <b>Comments:</b> Not hazardous for environment.
Substance	Alkyl polyglycoside
Acute aquatic, Daphnia	<b>Value:</b> ~ 150 mg/l <b>Test duration:</b> 48 hrs <b>Species:</b> Acartia Tonsa <b>Method:</b> ISO 14669
Ecotoxicity	The product is not environmentally hazardous to aquatic life.
Aquatic, comments	On basis of test data.

## 12.2. Persistence and degradability

Substance	Ethenediol
Biodegradability	<b>Value:</b> = 56 % <b>Method:</b> degradation in 28 days OECD 301C <b>Comments:</b> Not readily biodegradable.

Substance	Diethylene glycol monomethyl ether
Biodegradability	<b>Value:</b> = 100 % <b>Method:</b> degradation in 7 days OECD 302B <b>Comments:</b> Readily biodegradable.
Substance	Methanol
Biodegradability	<b>Value:</b> = 99 % <b>Method:</b> degradation in 28 days OECD 301D <b>Comments:</b> Readily biodegradable.
Substance	Alkyl polyglycoside
Biodegradability	<b>Value:</b> ~ 100 % <b>Method:</b> OCDE 301E <b>Test period:</b> 28 days
Persistence and degradability, comments	The product is expected to be biodegradable.

### 12.3. Bioaccumulative potential

Bioaccumulative potential	Bioaccumulation: Is not expected to be bioaccumulable.
Substance	Ethanediol
Bioconcentration factor (BCF)	<b>Value:</b> = 10 <b>Comments:</b> No bioaccumulation expected.
Substance	Diethylene glycol monomethyl ether
Bioconcentration factor (BCF)	<b>Value:</b> = 0,2 <b>Comments:</b> No bioaccumulation expected.
Substance	Methanol
Bioconcentration factor (BCF)	<b>Value:</b> = 1 <b>Comments:</b> No bioaccumulation expected.

### 12.4. Mobility in soil

Mobility	The product contains substances, which are water soluble and may spread in water systems.
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### 12.5. Results of PBT and vPvB assessment

PBT assessment results	Not Classified as PBT/vPvB by current EU criteria.
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### 12.6. Other adverse effects

## SECTION 13: Disposal considerations

### 13.1. Waste treatment methods

Specify the appropriate methods of disposal	Dispose of waste and residues in accordance with local authority requirements.
EWC waste code	EWC waste code: 160305 organic wastes containing dangerous substances Classified as hazardous waste: Yes

EU Regulations	Directive 2008/98/EC of the European Parliament and of the Council of 19 November 2008 on waste and repealing certain Directives. Annex III to Directive 2008/98/EC.
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## SECTION 14: Transport information

Dangerous goods	No
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### 14.1. UN number

Comments	Not applicable. No information required.
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### 14.2. UN proper shipping name

Comments	Not applicable. No information required.
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### 14.3. Transport hazard class(es)

Comments	Not applicable. No information required.
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### 14.4. Packing group

Comments	Not applicable. No information required.
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### 14.5. Environmental hazards

Comments	Not applicable. No information required.
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### 14.6. Special precautions for user

### 14.7. Transport in bulk according to Annex II of MARPOL 73/78 and the IBC Code

### Additional information

Additional information	The product is not covered by international regulation on the transport of dangerous goods (IMDG, IATA, ADR/RID).
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## SECTION 15: Regulatory information

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

EEC-directive	Commission Directive 2006/15/EC of 7 February 2006 establishing a second list of indicative occupational exposure limit values in implementation of Council Directive 98/24/EC and amending Directives 91/322/EEC and 2000/39/EC. Commission Directive 2012/45/EU adapting for the second time the Annexes to Directive 2008/68/EC of the European Parliament and of the Council on the inland transport of dangerous goods to scientific and technical progress.
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National regulations	Deutschland Wassergefährdungsklasse (WGK): 1
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Legislation and regulations	Commission Regulation (EU) 2015/830 of 28 May 2015 amending Regulation (EC) No 1907/2006 of the European Parliament and of the Council on the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH). Regulation (EC) No 1272/2008 on classification, labelling and packaging of substances and mixtures, amending and repealing Directives 67/548/EEC and 1999/45/EC, and amending
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Regulation (EC) No 1907/2006.

## 15.2. Chemical safety assessment

Chemical safety assessment performed Yes

## SECTION 16: Other information

List of relevant H-phrases (Section 2 and 3)

H225 Highly flammable liquid and vapour.  
 H301 Toxic if swallowed.  
 H302 Harmful if swallowed.  
 H311 Toxic in contact with skin.  
 H314 Causes severe skin burns and eye damage.  
 H315 Causes skin irritation.  
 H318 Causes Serious eye damage.  
 H319 Causes serious eye irritation.  
 H331 Toxic if inhaled.  
 H370 Causes damage to organs  
 H411 Toxic to aquatic life with long lasting effects.  
 H412 Harmful to aquatic life with long lasting effects.

Classification according to Regulation (EC) No 1272/2008 [CLP / GHS]

Eye Irrit. 2; H319; Calculation method

Additional information

Emergency Phone No  
 \*Europe (English, Dutch, French, German, Italian, Spanish) +44 1273 289451  
 France (English, French) +33 1 72 11 00 03  
 Germany (English, German) +49 69 222 25285  
 Spain (English, Spanish) +34 91 114 2520  
 Italy (English, Italian) +39 02 3604 2884  
 Netherlands (English, Dutch) +31 10 713 8195  
 \*Middle East (English, Arabic) +44 1273 289454  
 United States (English, French, Spanish) +1 866 928 0789  
 Canada (English, French) +1 800 579 7421  
 United States and Canada (English) +1 202 464 2554  
 Mexico (English, Spanish) +52 55 5004 8763  
 Brazil (Portuguese, Spanish, English) +55 11 3197 5891  
 Chile (English, Spanish) +56 2 2582 9336  
 Colombia (English, Spanish) +57 1 508 7337  
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 Malaysia (English, Malaysian) +60 3 6207 4347  
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