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

1.1	Product identifier Trade name	:	Ribavirin Solid Formulation
1.2	Relevant identified uses of th	ne s	ubstance or mixture and uses advised against
	Use of the Sub- stance/Mixture		Pharmaceutical
	Recommended restrictions on use	:	Not applicable
1.3	Details of the supplier of the	saf	ety data sheet
	Company	:	MSD 120 Moorgate EC2M 6UR London, United Kingdom
	Telephone	:	+44 (0) 2081548000
	E-mail address of person responsible for the SDS	:	EHSDATASTEWARD@msd.com

1.4 Emergency telephone number

1-908-423-6000

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

Germ cell mutagenicity, Category 2 Reproductive toxicity, Category 1B

Specific target organ toxicity - single exposure, Category 3 Specific target organ toxicity - repeated exposure, Category 1 H341: Suspected of causing genetic defects. H360Df: May damage the unborn child. Suspected of damaging fertility. H335: May cause respiratory irritation.

H372: Causes damage to organs through prolonged or repeated exposure.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008) as amended by GB-CLP Regulation, UK SI 2019/720, and UK SI 2020/1567)

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Hazard pictograms			
Sign	al word	: Danger	
Haza	ard statements	: H335 H341 H360Df H372	May cause respiratory irritation. Suspected of causing genetic defects. May damage the unborn child. Suspected of dam- aging fertility. Causes damage to organs through prolonged or repeated exposure.
Prec	autionary statements	: Prevent P201 P260 P264 P280	ion: Obtain special instructions before use. Do not breathe dust. Wash skin thoroughly after handling. Wear protective gloves/ protective clothing/ eye protection/ face protection.
		Respon P304 + I P308 + I	P340 + P312 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a POISON CENTER/ doctor if you feel unwell.

Hazardous components which must be listed on the label:

Ribavirin

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

Dust contact with the eyes can lead to mechanical irritation.

Contact with dust can cause mechanical irritation or drying of the skin.

May form explosive dust-air mixture during processing, handling or other means.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. Registration number	Classification	Concentration (% w/w)
Ribavirin	36791-04-5	Acute Tox. 4; H302 Muta. 2; H341 Repr. 1B; H360Df STOT SE 3; H335	>= 50 - < 70



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			STOT RE 1; H372 (Blood)		
Subs	tances with a workpla	ace exposure limit :			
Cellu	lose	9004-34-6		>= 10 - < 20	
		232-674-9			

For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures						
General advice		In the case of accident or if you feel unwell, seek medical ad- vice immediately. When symptoms persist or in all cases of doubt seek medical advice.				
Protection of first-aiders	:	First Aid responders should pay attention to self-protection, and use the recommended personal protective equipment when the potential for exposure exists (see section 8).				
If inhaled	:	If inhaled, remove to fresh air. Get medical attention.				
In case of skin contact	:	In case of contact, immediately flush skin with soap and plenty of water. Remove contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.				
In case of eye contact	:	If in eyes, rinse well with water. Get medical attention if irritation develops and persists.				
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention. Rinse mouth thoroughly with water.				
4.2 Most important symptoms a	nd e	effects, both acute and delayed				
Risks	:	May cause respiratory irritation. Suspected of causing genetic defects. May damage the unborn child. Suspected of damaging fertili- ty. Causes damage to organs through prolonged or repeated exposure. Contact with dust can cause mechanical irritation or drying of the skin. Dust contact with the eyes can lead to mechanical irritation.				

4.3 Indication of any immediate medical attention and special treatment needed

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Т	Treatment		:	Treat symptomatically and supportively.		
SECT	FION 5: Fire	fighting meas	sure	es		
5.1 Ex	xtinguishing	media				
Suitable extinguishing media		:	Water spray Alcohol-resistant Carbon dioxide (Dry chemical			
	Unsuitable extinguishing media		:	None known.		
5.2 Sp	pecial hazaro	ds arising from	the	substance or mi	ixture	
	Specific hazards during fire- fighting Hazardous combustion prod- ucts		:	concentrations, a potential dust exp	dust; fine dust dispersed in air in sufficient and in the presence of an ignition source is a plosion hazard. bustion products may be a hazard to health.	
			:	Carbon oxides Metal oxides		
5.3 Ac	dvice for fire	fighters				
	Special protector or firefighters	tive equipment	:		e, wear self-contained breathing apparatus. tective equipment.	
	Specific exting ods	guishing meth-	:	cumstances and Use water spray	g measures that are appropriate to local cir- the surrounding environment. to cool unopened containers. ged containers from fire area if it is safe to do	

6.1 Personal precautions, protective equipment and emergency procedures

Personal precautions	: Use personal protective equipment. Follow safe handling advice (see section 7) and personal pro- tective equipment recommendations (see section 8).
6.2 Environmental precautions	
Environmental precautions	 Avoid release to the environment. Prevent further leakage or spillage if safe to do so. Retain and dispose of contaminated wash water. If spillage enters rivers or watercourses, inform the Environment Agency (emergency telephone number 0800 807060).

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6.3 Methods and material for containment and cleaning up

Methods for cleaning up	 Surround spill with absorbents and place a damp covering over the area to minimise entry of the material into the air. Add excess liquid to allow the material to enter into solution. Soak up with inert absorbent material. Avoid dispersal of dust in the air (i.e., clearing dust surfaces with compressed air). Dust deposits should not be allowed to accumulate on surfaces, as these may form an explosive mixture if they are released into the atmosphere in sufficient concentration. Clean up remaining materials from spill with suitable absorbent. Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in the cleanup of releases. You will need to determine which regulations are applicable. Sections 13 and 15 of this SDS provide information regarding certain local or national requirements.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Technical measures	:	Static electricity may accumulate and ignite suspended dust causing an explosion. Provide adequate precautions, such as electrical grounding and bonding, or inert atmospheres.
Local/Total ventilation	:	If sufficient ventilation is unavailable, use with local exhaust ventilation.
Advice on safe handling	:	Do not get on skin or clothing. Do not breathe dust. Do not swallow. Avoid contact with eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure as- sessment Keep container tightly closed. Already sensitised individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease, should consult their physician regarding working with respira- tory irritants or sensitisers. Minimize dust generation and accumulation. Keep container closed when not in use. Keep away from heat and sources of ignition. Take precautionary measures against static discharges. Do not eat, drink or smoke when using this product. Take care to prevent spills, waste and minimize release to the environment.



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Hygiene measures		:	If exposure to chemical is likely during typical use, provide eye flushing systems and safety showers close to the working place. When using do not eat, drink or smoke. Wash contami- nated clothing before re-use. The effective operation of a facility should include review of engineering controls, proper personal protective equipment, appropriate degowning and decontamination procedures, industrial hygiene monitoring, medical surveillance and the use of administrative controls.		
7.2 Condit	ions for safe storage,	inc	luding any incom	patibilities	
Requirements for storage areas and containers		:	Keep in properly labelled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations.		
Advice	e on common storage	: Do not store with the following product types: Strong oxidizing agents Self-reactive substances and mixtures Organic peroxides Explosives Gases		agents stances and mixtures	
7.3 Specific end use(s)					

7.3 Specific end use(s) Specific use(s)

: No data available

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

dust	of	any	kind
------	----	-----	------

10 mg/m3 Value type (Form of exposure): TWA (Inhalable) Basis: GB EH40

4 mg/m3 Value type (Form of exposure): TWA (Respirable fraction) Basis: GB EH40

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Ribavirin	36791-04-5	Wipe limit	400 µg/100 cm ²	Internal
		TWA	40 µg/m3 (OEB 3)	Internal
Cellulose	9004-34-6	TWA (inhalable dust)	10 mg/m3	GB EH40
		TWA (Respirable dust)	4 mg/m3	GB EH40
		STEL (inhalable dust)	20 mg/m3	GB EH40

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8.2 Exposure controls

Engineering measures

All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment.

Containment technologies suitable for controlling compounds are required to control at source and to prevent migration of the compound to uncontrolled areas (e.g., open-face containment devices).

Minimize open handling.

Personal protective equipment

Eye/face protection	:	Wear safety glasses with side shields or goggles. If the work environment or activity involves dusty conditions mists or aerosols, wear the appropriate goggles. Wear a faceshield or other full face protection if there is a potential for direct contact to the face with dusts, mists, or aerosols.	
Hand protection			
Material	:	Chemical-resistant gloves	
Remarks Skin and body protection	:	Consider double gloving. Work uniform or laboratory coat. Additional body garments should be used based upon the task being performed (e.g., sleevelets, apron, gauntlets, disposable suits) to avoid exposed skin surfaces. Use appropriate degowning techniques to remove potentially contaminated clothing.	
Respiratory protection Filter type	:	If adequate local exhaust ventilation is not available or expo- sure assessment demonstrates exposures outside the rec- ommended guidelines, use respiratory protection. Equipment should conform to BS EN 143 Particulates type (P)	
	•		

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

Appearance Colour Odour Odour Threshold	: :	powder white No data available No data available
рН	:	No data available
Melting point/freezing point	:	No data available
Initial boiling point and boiling	:	No data available
range Flash point	:	No data available
Evaporation rate	:	Not applicable
Flammability (solid, gas)	:	May form explosive dust-air mixture during processing, han-

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				dling or other me	eans.
		explosion limit / Upper ability limit	:	No data available	9
		explosion limit / Lower ability limit	:	No data available	9
	Vapou	r pressure	:	Not applicable	
	Relativ	e vapour density	:	Not applicable	
	Relativ	e density	:	No data available	9
	Density	4	:	No data available	9
	Partitio octano	ter solubility n coefficient: n-	:	No data available Not applicable No data available	
	Decom	position temperature	:	No data available	e
	Viscos Viso	ity cosity, kinematic	:	Not applicable	
	Explos	ive properties	:	Not explosive	
	Oxidizi	ng properties	:	The substance o	r mixture is not classified as oxidizing.
9.2		nformation ability (liquids)	:	No data available	e
	Particle	e size	:	No data available	9

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions	: May form explosive dust-air mixture during processing, han-
	dling or other means.
	Can react with strong oxidizing agents.

10.4 Conditions to avoid



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Cond	itions to avoid	:	Heat, flames and Avoid dust forma	
	npatible materials rials to avoid	:	Oxidizing agents	
	rdous decomposition p			
	azardous decomposition			
SECTION	11: Toxicological in	for	mation	
11.1 Infor	mation on toxicologica	l eff	ects	
Inform expos	nation on likely routes of sure	:	Inhalation Skin contact Ingestion Eye contact	
	e toxicity lassified based on availa	ble	information.	
Prod Acute	uct: e oral toxicity	:	Acute toxicity estir Method: Calculation	mate: > 2,000 mg/kg on method
Com	oonents:			
Ribay	/irin:			
Acute	e oral toxicity	:	LD50 (Rat): 4,116	- 5,584 mg/kg
			LD50 (Mouse): > 7	10,000 mg/kg
			LD50 (Dog): >= 1,	500 mg/kg
Acute	inhalation toxicity	:	Remarks: No data	available
Acute	e dermal toxicity	:	Remarks: No data	available
	e toxicity (other routes of histration)	:	LD50 (Rat): 1,554 Application Route	
			LD50 (Mouse): 1,2 Application Route	
Cellu		_		
	e oral toxicity	:	LD50 (Rat): > 5,00	
Acute	inhalation toxicity	:	LC50 (Rat): > 5.8 Exposure time: 4 I Test atmosphere:	h

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	Acute dermal toxicity : LD50 (Rabbit): > 2,000 mg/kg							
	Not cla	corrosion/irritation assified based on availa onents:	able	information.				
	Ribav Rema		:	No data available May irritate skin.				
	Serious eye damage/eye irritation Not classified based on available information.							
		onents:						
	Ribav Rema		:	No data available May irritate eyes.				
	Respi	ratory or skin sensitis	atic	on				
	Not cla Respi	ensitisation assified based on availa ratory sensitisation assified based on availa						
	<u>Comp</u>	onents:						
	Ribav Rema		:	No data available				
		cell mutagenicity	: def	ects.				
	<u>Comp</u>	onents:						
	Ribav Genot	irin: oxicity in vitro	:	Test Type: Bacter Result: negative	rial reverse mutation assay (AMES)			
				Test Type: In vitro Test system: Rod Result: positive	o mammalian cell gene mutation test ent cell line			
				Test Type: Chrom Test system: Hun Result: negative	nosomal aberration nan lymphocytes			
	Genot	oxicity in vivo	:	Test Type: domin Species: Rat	ant lethal test			

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ersion 3	Revision Date: 28.09.2024	SDS Number: 9372509-00009	Date of last issue: 06.04.2024 Date of first issue: 27.08.2021		
		Result: neg	ative		
		Test Type: I Species: Mo Result: posi			
		Test Type: I Species: Mo Result: posi			
Germ sessn	n cell mutagenicity- As- nent	: Positive res genicity test	ult(s) from in vivo mammalian somatic cell muta· s.		
Cellu	lose:				
Geno	toxicity in vitro	: Test Type: I Result: neg	Bacterial reverse mutation assay (AMES) ative		
		Test Type: l Result: neg	n vitro mammalian cell gene mutation test ative		
Genotoxicity in vivo		cytogenetic Species: Mo Application	Test Type: Mammalian erythrocyte micronucleus test (in vivo cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative		
	i nogenicity lassified based on availa	able information			
	ponents:				
Riba	virin:				
Expos LOAE Resu	cation Route sure time EL It ot Organs	 Mouse Oral 6 Months 75 mg/kg bo negative Blood, Testa The mechair mans. 			
	cation Route sure time EL	: Rat : Oral : 2 Years : 10 mg/kg bo : negative	ody weight hism or mode of action may not be relevant in hu		
		: The mechai mans.	isin of mode of action may not be relevant in no		

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Resul Rema		: negative : The mechani mans.	sm or mode of action may not be relevant in hu-
Cellu	lose:		
	cation Route sure time	: Rat : Ingestion : 72 weeks : negative	
-	oductive toxicity damage the unborn ch	ild. Suspected of da	maging fertility.
-	oonents:	·	
Ribay	/irin:		
Effect	ts on fertility	Fertility: LOA	male oute: Intraperitoneal injection EL: < 20 mg/kg body weight educed fertility
			use, male oute: Oral EL: 35 mg/kg body weight reduced fertility
			females
			male
Effect ment	ts on foetal develop-	Symptoms: R fetuses, Skel	female oute: Oral al Toxicity: LOAEL: <= 1 mg/kg body weight reduced body weight, Reduced number of viable etal malformations yotoxic effects and adverse effects on the off-
		Test Type: De	evelopment

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		Developmental Symptoms: Re	ute: Oral by Maternal: LOAEL: 1 mg/kg body weight Toxicity: LOAEL: 1 mg/kg body weight duced body weight, Skeletal malformations otoxic effects and adverse effects on the off-
		Symptoms: Sko / resorption rate	ter ute: Oral Toxicity: LOAEL: 2.5 mg/kg body weight eletal and visceral variations, Total Resorptions e otoxic effects and adverse effects on the off-
		Species: Rat Application Ro General Toxicit Embryo-foetal	ty Maternal: NOAEL: 0.3 mg/kg body weight toxicity: LOAEL: 1 mg/kg body weight eletal malformations
Repro sessr	oductive toxicity - As- nent	fertility, based	e of adverse effects on sexual function and on animal experiments., Clear evidence of ad- n development, based on animal experiments.
Cellu	lose:		
Effec	ts on fertility	: Test Type: One Species: Rat Application Rou Result: negativ	•
Effec ment	ts on foetal develop-	: Test Type: Fer Species: Rat Application Rou Result: negativ	
	Γ - single exposure cause respiratory irritatio	n.	
Com	ponents:		
Riba	virin:		
Asse	ssment	: May cause res	piratory irritation.

STOT - repeated exposure

Causes damage to organs through prolonged or repeated exposure.

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Com	ponents:		
Riba			
Expo Targe	sure routes et Organs ssment	: Ingestion : Blood : Causes dama exposure.	ge to organs through prolonged or repeated
Repe	ated dose toxicity		
Com	ponents:		
Riba	virin:		
		: Monkey : 30 mg/kg : 10 d : Blood, Gastro	intestinal tract
Expo		: Rat : 7.6 mg/kg : Inhalation : 90 d : Blood, Lungs	
Expo		: Dog : 5 mg/kg : Oral : 1 yr : Blood, Gastro	intestinal tract
Expo		: Mouse : 20 mg/kg : Oral : 18 Months : Blood, Cardio	-vascular system
Spec NOAI Appli		: Rat : >= 9,000 mg/ł : Ingestion : 90 Days	g
-	ration toxicity lassified based on av	ailable information.	
Expe	rience with human e	exposure	
Com	ponents:		
Riba Inhala			eadache, Dizziness

Remarks: Based on Human Evidence



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Skin	contact	: Remarks: May Based on Huma	cause eye irritation. an Evidence			
Eye contact			: Remarks: May cause eye irritation.			
Inges	tion	: Symptoms: bloo Dizziness, insor	Based on Human Evidence Symptoms: blood effects, immune system effects, anorexia, Dizziness, insomnia, Fatigue, Headache, Itching, Rash, liver function change, Gastrointestinal disturbance			

SECTION 12: Ecological information

12.1 Toxicity

Components:

Ribavirin:

Toxicity to fish	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 119 mg/l Exposure time: 96 h
Toxicity to daphnia and other aquatic invertebrates	:	EC50 (Daphnia magna (Water flea)): > 117 mg/l Exposure time: 48 h Method: OECD Test Guideline 202
Toxicity to algae/aquatic plants	:	EC50 (Pseudokirchneriella subcapitata (green algae)): > 119 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
		NOEC (Pseudokirchneriella subcapitata (green algae)): 6.9 mg/l Exposure time: 96 h Method: OECD Test Guideline 201
Toxicity to microorganisms	:	EC50 : > 1,000 mg/l Exposure time: 3 h Test Type: Respiration inhibition Method: OECD Test Guideline 209
Cellulose:		
Toxicity to fish	:	LC50 (Oryzias latipes (Japanese medaka)): > 100 mg/l Exposure time: 48 h Remarks: Based on data from similar materials

12.2 Persistence and degradability

Components:

Cellulose:

Biodegradability	:	Result: Readily biodegradable.
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12.3 Bioa	ccumulative potential			
Com	ponents:			
	virin: ion coefficient: n- ol/water	:	log Pow: 0.971	
	l ity in soil ata available			
12.5 Resu	Ilts of PBT and vPvB a	asse	ssment	
<u>Prod</u> Asse	<u>uct:</u> ssment	:	to be either persi	nixture contains no components considered stent, bioaccumulative and toxic (PBT), or nd very bioaccumulative (vPvB) at levels of
12.6 Othe	r adverse effects			
Prod Endo tial	uct: crine disrupting poten-	:	ered to have end	nixture does not contain components consid- ocrine disrupting properties for environment REACH Article 57(f).

SECTION 13: Disposal considerations

13.1 Waste treatment methods	
Product	 Dispose of in accordance with local regulations. According to the European Waste Catalogue, Waste Codes are not product specific, but application specific. Waste codes should be assigned by the user, preferably in discussion with the waste disposal authorities. Do not dispose of waste into sewer.
Contaminated packaging	 Empty containers should be taken to an approved waste han- dling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

SECTION 14: Transport information

14.1 UN number

ADN	: Not regulated as a dangerous good
ADR	: Not regulated as a dangerous good
RID	: Not regulated as a dangerous good
IMDG	: Not regulated as a dangerous good
ΙΑΤΑ	: Not regulated as a dangerous good

14.2 UN proper shipping name

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AD	Ν	: Not regulated	as a dangerous good
AD	R	: Not regulated	as a dangerous good
RID)	: Not regulated	as a dangerous good
IMC)G	: Not regulated	as a dangerous good
ΙΑΤ	A	: Not regulated	as a dangerous good
14.3 Tra	nsport hazard class(es)		
AD	N	: Not regulated	as a dangerous good
AD	R	: Not regulated	as a dangerous good
RID)	: Not regulated	as a dangerous good
IMC)G	: Not regulated	as a dangerous good
ΙΑΤ	A	: Not regulated	as a dangerous good
14.4 Pac	king group		
AD	N	: Not regulated	as a dangerous good
AD	R	-	as a dangerous good
RID)	: Not regulated	as a dangerous good
IMC	G	: Not regulated	as a dangerous good
ΙΑΤ	A (Cargo)	: Not regulated	as a dangerous good
ΙΑΤ	A (Passenger)	: Not regulated	as a dangerous good
14.5 Env	vironmental hazards		
Not	regulated as a dangerous	s good	
-	ecial precautions for use applicable	er	
	nsport in bulk accordin narks		rpol and the IBC Code for product as supplied.

SECTION 15: Regulatory information

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

Relevant EU provisions transposed through retained EU law

UK REACH List of restrictions (Annex 17)	:	Not applicable
UK REACH Candidate list of substances of very high concern (SVHC) for Authorisation	:	Not applicable
The Persistent Órganic Pollutants Regulations (retained Regulation (EU) 2019/1021 as amended for Great Britain)	:	Not applicable
Regulation (EC) on substances that deplete the ozone layer	:	Not applicable



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(Anne	ex XIV)	ces subject to authorisa		Not applicable
Inforn	ned Consent (PIC) Re	•		Not applicable
Contr	ol of Major Accident H	lazards Regulations 20 Not applicable	15 (COM/	AH)

Other regulations:

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to new and expectant mothers at work contained in Regulation 16 to 18) and of the Pregnant Workers Directive 92/85/EEC.

Take note of The Management of Health and Safety at Work Regulations 1999 (requirements relating to protection of young people at work contained in Regulation 19) and of Directive 94/33/EC on the protection of young people at work.

The components of this product are reported in the following inventories:

AICS	:	not determined
DSL	:	not determined
IECSC	:	not determined

15.2 Chemical safety assessment

A Chemical Safety Assessment has not been carried out.

CTION 16: Other infor	mation
Other information	: Items where changes have been made to the previous version are highlighted in the body of this document by two vertical lines.
Full text of H-Statemer	nts
H302	: Harmful if swallowed.
H335	: May cause respiratory irritation.
H341	: Suspected of causing genetic defects.
H360Df	: May damage the unborn child. Suspected of damaging fertili-
	ty.
H372	 Causes damage to organs through prolonged or repeated exposure if swallowed.
Full text of other abbre	eviations
Acute Tox.	: Acute toxicity
Muta.	: Germ cell mutagenicity
Repr.	: Reproductive toxicity
STOT RE	: Specific target organ toxicity - repeated exposure
STOT SE	: Specific target organ toxicity - single exposure
GB EH40	: UK. EH40 WEL - Workplace Exposure Limits
GB EH40 / TWA	: Long-term exposure limit (8-hour TWA reference period)
GB EH40 / STEL	: Short-term exposure limit (15-minute reference period)

ADN - European Agreement concerning the International Carriage of Dangerous Goods by Inland Waterways; ADR - Agreement concerning the International Carriage of Dangerous Goods by



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Road: AIIC - Australian Inventory of Industrial Chemicals: ASTM - American Society for the Testing of Materials; bw - Body weight; CLP - Classification Labelling Packaging Regulation; Regulation (EC) No 1272/2008; CMR - Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); ECHA -European Chemicals Agency; EC-Number - European Community number; ECx - Concentration associated with x% response; ELx - Loading rate associated with x% response; EmS - Emergency Schedule; ENCS - Existing and New Chemical Substances (Japan); ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IARC - International Agency for Research on Cancer; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; ICAO - International Civil Aviation Organization; IECSC - Inventory of Existing Chemical Substances in China; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; ISHL - Industrial Safety and Health Law (Japan); ISO - International Organisation for Standardization; KECI - Korea Existing Chemicals Inventory; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - Not Otherwise Specified; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NZIoC - New Zealand Inventory of Chemicals; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; PBT - Persistent, Bioaccumulative and Toxic substance: PICCS - Philippines Inventory of Chemicals and Chemical Substances: (Q)SAR - (Quantitative) Structure Activity Relationship; REACH - Regulation (EC) No 1907/2006 of the European Parliament and of the Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; SVHC - Substance of very high concern; TCSI - Taiwan Chemical Substance Inventory; TECI -Thailand Existing Chemicals Inventory; TSCA - Toxic Substances Control Act (United States); UN - United Nations; UNRTDG - United Nations Recommendations on the Transport of Dangerous Goods; vPvB - Very Persistent and Very Bioaccumulative

Further information

Sources of key data used to : compile the Safety Data Sheet

Internal technical data, data from raw material SDSs, OECD eChem Portal search results and European Chemicals Agency, http://echa.europa.eu/

Classification of the mixture:		
H341	Calculation method	
H360Df	Calculation method	
H335	Calculation method	
H372	Calculation method	
	H341 H360Df H335	

The information provided in this Safety Data Sheet is correct to the best of our knowledge, information and belief at the date of its publication. The information is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and shall not be considered a warranty or quality specification of any type. The information provided relates only to the specific material identified at the top of this SDS and may not be valid when the SDS material is used in combination with any other materials or in any process, unless specified in the text. Material users should review the information and recommendations in the specific context of their



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intended manner of handling, use, processing and storage, including an assessment of the appropriateness of the SDS material in the user's end product, if applicable.

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