

Isoeugenol Formulation

Version 5.1	Revision Date: 30.09.2023		S Number: 1407-00013	Date of last issue: 04.04.2023 Date of first issue: 13.08.2019
SECTION	1. IDENTIFICATION			
Produ	uct name	:	Isoeugenol Form	nulation
Manu	ifacturer or supplier's	s detai	ls	
Comp	bany	:	MSD	
Addre	ess	:		, 6th floor, Ciudad Autonoma rgentina C1013AAP
Telep	hone	:	908-740-4000	
Emer	gency telephone	:	1-908-423-6000	
E-ma	il address	:	EHSDATASTEW	/ARD@msd.com
Reco	mmended use of the	chem	ical and restriction	ons on use
	mmended use ictions on use	:	Veterinary produ Not applicable	ict

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification		
Acute toxicity (Oral)	:	Category 5
Acute toxicity (Inhalation)	:	Category 4
Acute toxicity (Dermal)	:	Category 5
Skin corrosion/irritation	:	Category 2
Serious eye damage/eye irritation	:	Category 2A
Skin sensitization	:	Category 1
Specific target organ toxicity - single exposure	:	Category 3
Short-term (acute) aquatic hazard	:	Category 2
Long-term (chronic) aquatic hazard	:	Category 3

GHS label elements



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Hazaı	rd pictograms		
Signa	l Word	: Warning	
Hazaı	rd Statements	skin. H315 Causes H317 May cau H319 Causes H332 Harmful H335 May cau H401 Toxic to	ise an allergic skin reaction. serious eye irritation. if inhaled. ise respiratory irritation.
Preca	utionary Statements	Prevention:	
		P264 Wash sk P271 Use only P272 Contami the workplace P273 Avoid re	eathing vapors. kin thoroughly after handling. y outdoors or in a well-ventilated area. inated work clothing should not be allowed out o lease to the environment. otective gloves/ eye protection/ face protection.
		P304 + P340 - and keep com doctor if you fe P305 + P351 - for several mir easy to do. Co P312 Call a P0 P333 + P313 I vice/ attention P337 + P313 I tention.	 + P338 IF IN EYES: Rinse cautiously with wate nutes. Remove contact lenses, if present and ontinue rinsing. OISON CENTER/ doctor if you feel unwell. If skin irritation or rash occurs: Get medical ad-
		Storage:	
		P405 Store loo Disposal:	cked up.
		-	of contents/ container to an approved waste

Other hazards which do not result in classification

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS



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Subst	tance / Mixture	: Mixture				
Com	ponents					
Cherr	nical name		CAS-No.	Concentration (% w/w)		
Isoeu	igenol		97-54-1	>= 50 -< 70		

SECTION 4. FIRST AID MEASURES

General advice	:	In the case of accident or if you feel unwell, seek medical advice immediately. When symptoms persist or in all cases of doubt seek medical advice.
If inhaled	:	If inhaled, remove to fresh air. If not breathing, give artificial respiration. If breathing is difficult, give oxygen.
In case of skin contact	:	Get medical attention if symptoms occur. In case of contact, immediately flush skin with plenty of water for at least 15 minutes while removing contaminated clothing and shoes. Get medical attention. Wash clothing before reuse. Thoroughly clean shoes before reuse.
In case of eye contact	:	In case of contact, immediately flush eyes with plenty of water for at least 15 minutes. If easy to do, remove contact lens, if worn. Get medical attention.
If swallowed	:	If swallowed, DO NOT induce vomiting. Get medical attention if symptoms occur. Rinse mouth thoroughly with water.
Most important symptoms and effects, both acute and delayed	:	May be harmful if swallowed or in contact with skin. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled.
Protection of first-aiders	:	May cause respiratory irritation. 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).
Notes to physician	:	Treat symptomatically and supportively.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Water spray Alcohol-resistant foam Carbon dioxide (CO2) Dry chemical
Unsuitable extinguishing media	:	None known.
Specific hazards during fire fighting	:	Exposure to combustion products may be a hazard to health.
Hazardous combustion prod- ucts	:	Carbon oxides



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Spec ods	ific extinguishing 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
	ial protective equipment e-fighters	:		e, wear self-contained breathing apparatus. tective equipment.
SECTION	6. ACCIDENTAL RELE	ASI	EMEASURES	
tive e	onal precautions, protec- quipment and emer- y procedures	:	Follow safe hand	tective equipment. ling advice (see section 7) and personal nent recommendations (see section 8).
Envir	onmental precautions	:	Prevent spreadin oil barriers). Retain and dispo	akage or spillage if safe to do so. g over a wide area (e.g., by containment or se of contaminated wash water. should be advised if significant spillages
	ods and materials for inment and cleaning up	:	For large spills, p containment to ke can be pumped, s container. Clean up remaini absorbent. Local or national disposal of this m employed in the o determine which Sections 13 and	t absorbent material. rovide diking or other appropriate eep material from spreading. If diked material store recovered material in appropriate ing materials from spill with suitable regulations may apply to releases and aterial, as well as those materials and items cleanup of releases. You will need to regulations are applicable. 15 of this SDS provide information regarding ational requirements.

SECTION 7. HANDLING AND STORAGE

Technical measures	:	See Engineering measures under EXPOSURE CONTROLS/PERSONAL PROTECTION section.
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 vapors. Do not swallow. Do not get in eyes. Wash skin thoroughly after handling. Handle in accordance with good industrial hygiene and safety practice, based on the results of the workplace exposure assessment Keep container tightly closed. Already sensitized individuals, and those susceptible to asthma, allergies, chronic or recurrent respiratory disease,



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		respiratory irritan Take care to prev environment.	vent spills, waste and minimize release to the	
Conditions for safe storage		 Keep in properly labeled containers. Store locked up. Keep tightly closed. Keep in a cool, well-ventilated place. Store in accordance with the particular national regulations. 		
Mater	ials to avoid		the following product types:	

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Ingredients with workplace control parameters

Components	CAS-No.	Value type (Form of exposure)	Control parame- ters / Permissible concentration	Basis
Isoeugenol	97-54-1	TWA	250 µg/m3 (OEB 2)	Internal
	Further information: DSEN			
		Wipe limit	100 µg/100 cm ²	Internal

Engineering measures :	Use appropriate engineering controls and manufacturing technologies to control airborne concentrations (e.g., dripless quick connections). All engineering controls should be implemented by facility design and operated in accordance with GMP principles to protect products, workers, and the environment. Laboratory operations do not require special containment.
Personal protective equipment	
Respiratory protection :	No personal respiratory protective equipment normally required.
Hand protection Material :	Chemical-resistant gloves
Eye 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.
Skin and body protection : Hygiene measures :	 Work uniform or laboratory coat. 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. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before re-use. The effective operation of a facility should include review of



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			appropriate degovindustrial hygiene use of administration	
SECTION	9. PHYSICAL AND CHE	EMIC		S
Appea	arance	:	viscous liquid	
Color		:	yellow	
Odor		:	floral	
Odor	Threshold	:	No data available	9
pН		:	No data available	e
Meltin	g point/freezing point	:	No data available	e
Initial range	boiling point and boiling	:	266 °C	
Flash	point	:	No data available	e
Evapo	oration rate	:	No data available	9
Flamr	nability (solid, gas)	:	Not applicable	
Flamr	nability (liquids)	:	No data available	e
	r explosion limit / Upper ability limit	:	No data available	9
	r explosion limit / Lower ability limit	:	No data available	9
Vapor	pressure	:	< 0,02 mmHg (25	5 °C)
Relati	ve vapor density	:	No data available	9
Relati	ve density	:	No data available	e
Densi	ty	:	No data available	e
	ility(ies) ater solubility	:	dispersible	
So	lubility in other solvents	:	soluble Solvent: Ethanol	
	on coefficient: n-	:	Not applicable	
	ol/water gnition temperature	:	No data available	e
Decor	mposition temperature	:	No data available	9



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	sity scosity, kinematic sive properties		data availal t explosive	ble
Oxidizing properties Molecular weight Particle size		: No	e substance data availal t applicable	or mixture is not classified as oxidizing.

SECTION 10. STABILITY AND REACTIVITY

Reactivity Chemical stability Possibility of hazardous reac- tions	:	Not classified as a reactivity hazard. Stable under normal conditions. Can react with strong oxidizing agents.
Conditions to avoid Incompatible materials Hazardous decomposition products		None known. Oxidizing agents No hazardous decomposition products are known.

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	Inhalation Skin contact Ingestion Eye contact
Acute toxicity		
May be harmful if swallowed o Harmful if inhaled.	or in	contact with skin.
Product:		
Acute oral toxicity	:	Acute toxicity estimate: 2.580 mg/kg Method: Calculation method
Acute inhalation toxicity	:	Acute toxicity estimate: 3 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: Calculation method
Acute dermal toxicity	:	Acute toxicity estimate: 3.824 mg/kg Method: Calculation method
Components:		
Isoeugenol:		
Acute oral toxicity	:	LD50 (Rat): 1.290 mg/kg
Acute inhalation toxicity	:	Acute toxicity estimate: > 1 - 5 mg/l



rsion	Revision Date: 30.09.2023		OS Number: 41407-00013	Date of last issue: 04.04.2023 Date of first issue: 13.08.2019
			Exposure time: 4 Test atmosphere Method: Expert j	e: dust/mist
Acute	dermal toxicity	:	LD50 (Rabbit): 1	.912 mg/kg
Skin d	corrosion/irritation			
Cause	es skin irritation.			
<u>Comp</u>	oonents:			
Isoeu	genol:			
Speci		:	Rabbit	
Resul	t	:	Skin irritation	
Serio	us eye damage/eye i	rritati	on	
Cause	es serious eye irritation	n.		
Comp	oonents:			
Isoeu	genol:			
Resul	-	:	Irritation to eyes,	reversing within 21 days
Respi	iratory or skin sensit	izatio	on	
Skin	iratory or skin sensit sensitization ause an allergic skin i			
Skin s May c	sensitization			
Skin s May c Respi	sensitization ause an allergic skin i	reactio	on.	
Skin s May c Resp i Not cl	sensitization ause an allergic skin i iratory sensitization	reactio	on.	
Skin s May c Respi Not cl <u>Comp</u>	sensitization ause an allergic skin i iratory sensitization assified based on ava	reactio	on.	
Skin s May c Respi Not cl <u>Comp</u> Isoeu Test T	sensitization ause an allergic skin i iratory sensitization assified based on ava conents: genol: ype	reactio	on. information. Maximization Te	st
Skin s May c Respi Not cl Comp Isoeu Test T Route	sensitization ause an allergic skin i iratory sensitization assified based on ava <u>conents:</u> genol: Type as of exposure	reactio	on. information. Maximization Te Skin contact	st
Skin s May c Respi Not cl Comp Isoeu Test T Route Specie	sensitization ause an allergic skin i iratory sensitization assified based on ava <u>conents:</u> genol: Type as of exposure es	reactio	on. information. Maximization Te Skin contact Humans	
Skin s May c Respi Not cl Comp Isoeu Test T Route	sensitization ause an allergic skin i iratory sensitization assified based on ava <u>conents:</u> genol: Type is of exposure es od	reactio	on. information. Maximization Te Skin contact	
Skin s May c Respi Not cl Comp Isoeu Test T Route Speci Metho	sensitization ause an allergic skin i iratory sensitization assified based on ava conents: genol: Type is of exposure es od t	reactio	on. information. Maximization Te Skin contact Humans OECD Test Guid	leline 406
Skin s May c Respi Not cl Comp Isoeu Test T Route Speci Metho Resul	sensitization ause an allergic skin i iratory sensitization assified based on ava <u>conents:</u> genol: Type es of exposure es od t	reactio	on. information. Maximization Te Skin contact Humans OECD Test Guid positive Maximization Te Skin contact	leline 406
Skin s May c Respi Not cl Comp Isoeu Test T Route Specie Metho Resul Test T Route Specie	sensitization ause an allergic skin r iratory sensitization assified based on ava conents: genol: Type es of exposure es od t	reactio	on. information. Maximization Te Skin contact Humans OECD Test Guid positive Maximization Te Skin contact Guinea pig	leline 406 st
Skin s May c Respi Not cl Comp Isoeu Test T Route Specie Metho Resul	sensitization ause an allergic skin i iratory sensitization assified based on ava <u>conents:</u> genol: Type es of exposure es od t	reactio	on. information. Maximization Te Skin contact Humans OECD Test Guid positive Maximization Te Skin contact Guinea pig OECD Test Guid	leline 406 st
Skin s May c Respi Not cl Comp Isoeu Test T Route Specie Metho Resul Test T Route Specie	sensitization ause an allergic skin i iratory sensitization assified based on ava <u>conents:</u> genol: Type es of exposure es od t	reactio	on. information. Maximization Te Skin contact Humans OECD Test Guid positive Maximization Te Skin contact Guinea pig OECD Test Guid positive	leline 406 st

Not classified based on available information.



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	Compo	onents:				
	Isoeug	jenol:				
	Genoto	oxicity in vitro	:	Test Type: Bacter Result: negative	ial reverse mutation assay (AMES)	
				Test Type: Chron Result: negative	nosome aberration test in vitro	
	Genoto	oxicity in vivo	:	Test Type: Mammalian erythrocyte micronucleus test (in cytogenetic assay) Species: Mouse Application Route: Ingestion Result: negative		
	Carcin	ogenicity				
	Not cla	ssified based on avail	able	information.		
	-	ductive toxicity ssified based on avail	able	information.		
	Compo	onents:				
	Isoeug	jenol:				
	-	on fertility	:	Test Type: Two-g Species: Rat Application Route Result: negative	eneration reproduction toxicity study : Ingestion	
	Effects	on fetal development	:	Test Type: Embry Species: Rat Application Route Result: negative	ro-fetal development : Ingestion	
	STOT-	single exposure				
		use respiratory irritation	on.			
	Compo	onents:				
	Isoeug	ienol:				
	Assess Remar	sment	:	May cause respire Based on data fro	atory irritation. m similar materials	
	rtomar		•			
		repeated exposure ssified based on avail	able	information.		
	Repea	ted dose toxicity				
	Compo	onents:				
	Isoeug	jenol:				
	Specie NOAEI LOAEL	s -	:	Rat 75 mg/kg 150 mg/kg Ingestion		



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Expo	sure time	:	14 Weeks	
-	ration toxicity assified based on availa	ble	information.	
ECTION	12. ECOLOGICAL INFO	DRN	IATION	
Ecoto	oxicity			
<u>Com</u>	oonents:			
Isoeu	igenol:			
Toxic	ity to fish	:	EC50 (Oncorhy Exposure time:	nchus mykiss (rainbow trout)): 5,1 mg/l 96 h
	ity to daphnia and other ic invertebrates	:	EC50 (Daphnia Exposure time:	magna (Water flea)): 7,5 mg/l 48 h
Toxic plants	ity to algae/aquatic	:	ErC50 (Skeletor Exposure time:	nema costatum (marine diatom)): 3,76 mg/ 72 h
			NOEC (Skeleto Exposure time:	nema costatum (marine diatom)): 1,7 mg/l 72 h
	ity to daphnia and other ic invertebrates (Chron- icity)	:	Exposure time:	a magna (Water flea)): 0,4 mg/l 21 d Test Guideline 211
Persi	stence and degradabili	ty		
<u>Com</u>	oonents:			
	i genol: gradability	:	Result: Readily Biodegradation: Exposure time: Method: OECD	79 %
Bioad	cumulative potential			
Com	oonents:			
Partiti	i genol: ion coefficient: n- ol/water	:	log Pow: 3,04	
	l ity in soil ata available			
	r adverse effects ata available			



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SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods	
Waste from residues	: Do not dispose of waste into sewer. Dispose of in accordance with local regulations.
Contaminated packaging	: Empty containers should be taken to an approved waste handling site for recycling or disposal. If not otherwise specified: Dispose of as unused product.

SECTION 14. TRANSPORT INFORMATION

International Regulations

UNRTDG

Not regulated as a dangerous good

IATA-DGR Not regulated as a dangerous good

IMDG-Code

Not regulated as a dangerous good

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

Not applicable for product as supplied.

Special precautions for user

Not applicable

SECTION 15. REGULATORY INFORMATION

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

Argentina. Carcinogenic Substances and Agents Registry.	:	Not applicable
Control of precursors and essential chemicals for the preparation of drugs.	:	Not applicable

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

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

SECTION 16. OTHER INFORMATION

Revision Date	:	30.09.2023
Date format	:	dd.mm.yyyy

Further information



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Sou	rces of key data used to	: Internal technic	al data, data from raw material SDSs. C

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

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

Full text of other abbreviations

AIIC - Australian Inventory of Industrial Chemicals; ANTT - National Agency for Transport by Land of Brazil; ASTM - American Society for the Testing of Materials; bw - Body weight; CMR -Carcinogen, Mutagen or Reproductive Toxicant; DIN - Standard of the German Institute for Standardisation; DSL - Domestic Substances List (Canada); 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; ERG - Emergency Response Guide; 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; Nch - Chilean Norm; NO(A)EC - No Observed (Adverse) Effect Concentration; NO(A)EL - No Observed (Adverse) Effect Level; NOELR - No Observable Effect Loading Rate; NOM - Official Mexican Norm; NTP - National Toxicology Program; 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; SADT - Self-Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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; WHMIS - Workplace Hazardous Materials Information System

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 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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