

SAFETY DATA SHEET

Eclipse High Solids Polyurethane Enamel ECL-F-92

Section 1. Identification

GHS product identifier Other means of identification

Eclipse High Solids Polyurethane Enamel ECL-F-92

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

Supplier/Manufacturer z o N b ke b i C akt b i nos i o k.s u r

i gaku donb Cxr cCx guC ioNbsbiCarub

Canadian Supplier

t i sipik

Emergency telephone number $t \quad k \qquad \qquad k \qquad \qquad kkk \quad . \; s \; c \; gp \; C \; kn \quad C \; k \label{eq:kkk}$

t k.s nCxs i ngb s i akk k k kk d nogp Ckn Ck ku b aaCu nku i aack

i u u C n C p

Date of issue / Date of revision

Safety Data Sheet Version

Date of printing



Section 2. Hazards identification

OSHA/HCS status

Classification of the substance or mixture

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Section 2. Hazards identification

GHS label elements

Hazard pictograms







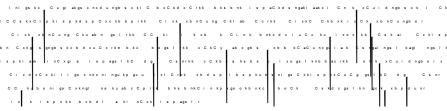
Hazard statements



Precautionary statements

Prevention

Signal word



Response



Storage Disposal

gc bcCkb kubsnCsnckispkubsnigsCxkgskiuubxpisuCk gn kiaakabulakxClgbsiaksingbslakispk gsncksingbslakxCldalngbscr

Hazards not otherwise classified

e bs Ckosbsr

Section 3. Composition/information on ingredients

Substance/mixture

gy nd x 0

Ingredient name	%	CAS number
C nis bsC	k k	
I d ni s b s C	k k	
c gagu b s kp gb y gp C	k k	
i ad gs gd k p x b y gp C	k k	
CsnisC pgbsC	k k k	
uixibskialuo kxCc gxilaCk b pCx	k k k	
ba Csnksi nik CnxbaCd kagi nkixbr	kk k	

zs kubsuCsnxingbskc b skickikxisiCkgcknbk_e xbnCunkubs gpCsnglagn kbxkgckpdCknbklinu k ixgingbsr

1 1 C k

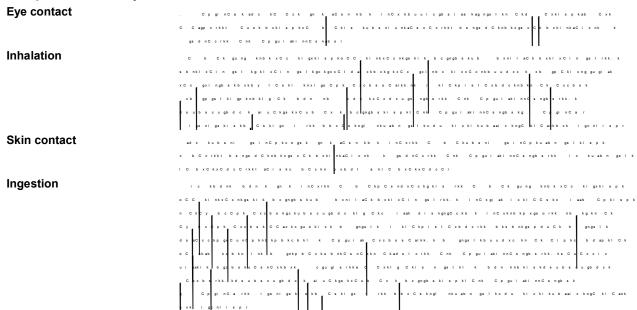
Section 3. Composition/information on ingredients

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures



Most important symptoms/effects, acute and delayed

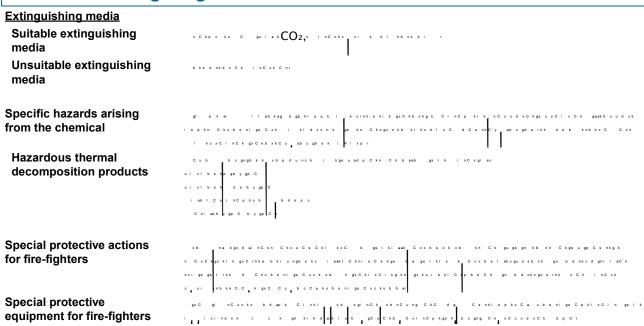
Potential acute health effects Eye contact Inhalation Skin contact Ingestion Over-exposure signs/symptoms Eye contact Inhalation Skin contact Ingestion Over-exposure signs/symptoms Eye contact Ingestion Index out to the second to the second

1 1 C k

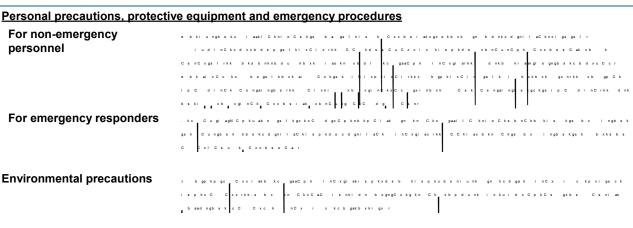
Section 4. First aid measures

Indication of immediate medical attention and special treatment needed, if necessary Notes to physician disngngCok i CkICCs kgs IConCpkb:kgs iaCpr Specific treatments Protection of first-aiders e bki ungbake i aaki Cknio Cakga ba ga iki a k Cxeba i akxgookbxk gn bdnkedgni i aCknxi ga ga i rkk.nk i Ckp i a i Cxb deknbkn Ck Cxeba k xb ga ga iki ga knbki g Ck bdn nb bdn kxCedeugni ngbar See toxicological information (Section 11)

Section 5. Fire-fighting measures



Section 6. Accidental release measures



b kxC d C c nki s kd j p i nC p k k j sC i c C k gc gnk nn j

i i c k

Section 6. Accidental release measures

Methods and materials for containment and cleaning up

Small spill

Large spill

Section 7. Handling and storage

Precautions for safe handling

Protective measures

Advice on general occupational hygiene

ings i kpxgsogs i kispke bogs i ke bdapki Ckxb gign Opkgski x Cick CxCkn gek in Cxglakgek Ispa Opken bx Cpki spk xbu Cec Oprkk bx O Cxeke bdapk i e kispekispki u Cki Obx CkCl ngs i pxgsogs i kispke bogs i rkk Ob Cku bsni glin Opku abn gsikispk xbn Oung CkOdg Csnki Obx Ck Csn Cxgs i kCings i kixCierkk OCkiaebk Oungbs kbxkippgngbs i akgs bk in gbskbsk i gCsCk

Conditions for safe storage, including any incompatibilities



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Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits	
C _i nis bsC	ACGIH TLV (United States, 3/2016).	
	kk z k k l k b d x c r	
	NIOSH REL (United States, 10/2016).	
	h z h h h h h d x c r	
	kk z k k k b d x o r	
	OSHA PEL (United States, 6/2016).	
	kk z k l l k k b d x c r	
	ACCIUTIV/Uhitad States 2/2046)	
d ni s b s C	ACGIH TLV (United States, 3/2016).	
	kk k i k ged nG cr kk k _{ke} k k ged nG cr	
	kk k k gadnGer kk z k k k bdxer	
	kk z k k k b d x c r	
	NIOSH REL United States, 10/2016).	
	kk k III k k gs d nC c r	
	kk k d k k gad nG c r kk z k kll k k b d x c r	
	kk z k k k b d x c r	
	OSHA PEL United States, 6/2016).	
	1	
	kk z k k k b d x c r	
gagu b s kp gb y gp C	NIOSH REL (United States, 10/2016).	
ad gagd k pxbygpC	ACGIH TLV (United States, 3/2016).	
y- y- , , , , , , y , , ,	kk z k l k k b d x c rk b x k C c gxila C k	
	xi u ngb s	
CsnisC pgbsC	s gnC p k ni nC c k rkz l c b xl C p kn xb d l k	
	c o gs rk	
ixibskialuo kxCo, gxilaCk, bpCx	ACGIH TLV (United States, 3/2016).	
	kk z k k l k k b d x o rk b x k.s i al l aC k	
	xi u ngb s	
	NIOSH REL (United States, 10/2016).	
	kk z k r k l k k b d x c r	
	OSHA PEL (United States, 6/2016).	
	kk z k r k l k k b d xer	
ba Csnksi nik CnxbaCd kagi nkixbr	e b s C r	

Appropriate engineering controls

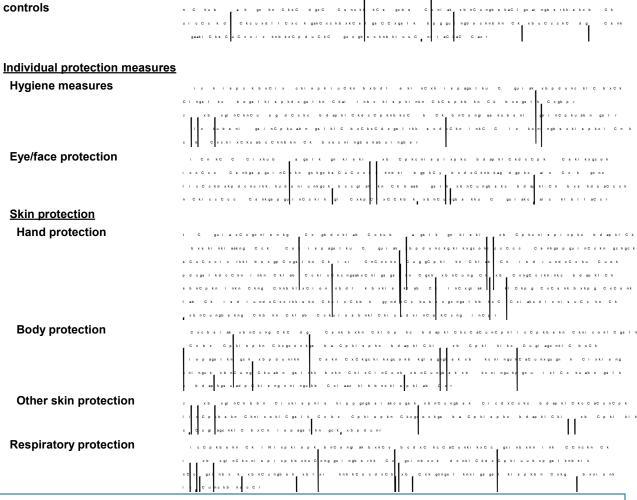


Environmental exposure

Eclipse High Solids Polyurethane Enamel ECL-F-92

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Section 8. Exposure controls/personal protection



Section 9. Physical and chemical properties

Appearance

Physical state

Color

Color

Odor

Odor threshold

pH

b nki | gal | ac /

Melting/freezing point

Boiling point

boiling range

Flash point

Evaporation rate

antippy population and the production of the contract of the c

i i C k

Section 9. Physical and chemical properties

octanol/water

Partition coefficient: n-

Auto-ignition temperature

a b aki | i gal | ac r

Decomposition temperature

Viscosity gs C i ngu k x b b knC , C x i nd x C k r

Weight Volatiles : Volume Volatiles : Volume Volatiles : Volume Solids : Volum

Regulatory VOC

VOC Actual , alolia , a

Section 10. Stability and reactivity

Reactivity	e bke gougguknocnkpinikx Cain Opknbkx Ciunggn ki igalia Ck bxkn gok xbpdunkbxkgnokgs Ix OpgOsnor
Chemical stability	Ck xbpdunkgckcnil aCr
Possibility of hazardous reactions	spCxksbx i akubspgngbsckb kcnbxilCki spkdcCk i NixpbdckxCi ungbsck gaaksbnkbuudxr
Conditions to avoid	z bgpki aak beeglaCkebd xu Cekb kgls gngbsk e i xokbxk ai. Crkk bksbnk x Ceed xgN C ku dn k Cap I xi N C keb o Cx kp xgaa ki xga p kb xk Cy be C ku bs i ga Cxeknbk Ci nkb xkebd xu e ckb kgls gngbs r
ncompatible materials	Ciung Chb xhgs ub ìnglaCk gn kn Ck baab gs lk in Cxglac by gp gN gs lk in Cxglac
Hazardous decomposition products	spCxksbx i akubspgngbsckb kcnbxi i Cki spkdcCk i NixpbdckpCub bcgngbsk xbpduncke bdapk sbnki Ck_xbpduCpr

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Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
C nis bsC	k xi a	i n	k I o I	
I dnisbs C	k Cx i a	i I I gn	k 0	
	k xi a	i n	k 0	
CsnisC pgbsC	k xi a	i n	k 1 o 1	
uixIbsklaiuokxCc gxilaCk	k xi a	i n	k I o I	
ba C s nks i n i k C nx b aC d	k xi a	i n	k I e I	

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
C nis bsC	ogsk k gap kgxxgnisn	i I I gn		k bdxck k	
				gaagi xi c	
I d ni s b s C	ogsk k gap kgxxgnis n	i I I gn		k bdxck k	
				gaagi xi c	
	ogsk bpCxinCkgxxgnisn	i I I gn		k bdxck k	
				gaagi xi o	
c gagu b s kp gb y gp C	Cokk gap kgxxgnis n	i I I gn		k b d x c k k	
				gaagi xi o	
C s ni s C p gb s C	Cokk C CxCkgxxgnisn	i I I gn		k gaagi xi c	
	ogsk k gap kgxxgnis n	i I I gn		k	
				gaagi xi c	
	ogsk k gap kgxxgnis n	i I I gn		k bdxak rk	
				gagagn C x c k	
				.s nC x gnnC s n	
	ogsk bpCxinCkgxxgnisn	i I I gn		k bdxck r	
				k gagagn C x c k	
				.s nC x gnnC s n	
	ogsk bpCxinCkgxxgnisn	i I I gn		k bdxak rk	
				gagagn C x c k	
				.s nC x gnnC s n	
ba Csnksi nik CnxbaCd	Cokk gap kgxxgnis n	i I I gn		k bdxck k	
agi nkixbr				gu x b agn C x c	

Sensitization

e bnki i gail aCr

Mutagenicity

e bnki i gaila Cr

Carcinogenicity

e b nki i gai l aC r

Classification

Product/ingredient name	OSHA	IARC	NTP
c gagu b s kp gb y gp C			
uixibskiaiuokxCcgxiiaCkgbpCx			

i i c k

Section 11. Toxicological information

Reproductive toxicity

e bnki i gailaCr

Teratogenicity

e b nki i gail a C r

Specific target organ toxicity (single exposure)

Name	0 ,	Route of exposure	Target organs
ba Crnkri, nik CnxbaCd kaginkixbr	t i nC i b x k		C c gxi nb x knxi u nk gxxgni ngb s ki s p k e i xu b ngu kC C u nc

Specific target organ toxicity (repeated exposure)

e b nki i gai l aC r

Aspiration hazard

Name	Result
ba Csnksi nik CnxbaCd kaginkixbr	z. z. ek z. z. kktinClbxk

routes of exposure

Potential acute health effects

Eye contact

Inhalation e b ko s b s kcgl s g gu i s nkC C u nc kb xku x gngu i ak i N i xp c r

Skin contact

Ingestion

Ingestion

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact z p c x c C kc nb c k l kgs u ad p C kn C k b aab gs

i gs kb xkgxxgni ngi i nC xgs i

Inhalation . b ko, c u g gu kp i ni r

gxxgningbs xCpsCcc

Ingestion : . . b ko, c u s gu kp i ni r

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate

effects

Long term exposure

i i C k

Section 11.	Toxico l	logical	inform	nation
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Potential immediate e b nki i gai l aC r effects Potential delayed effects

e b nki i gal l aC r

Potential chronic health effects

e b nki i gail aC r General Carcinogenicity de CunCpkb kuidegsikuisuCxrkk geokb kuisuCxkpC Cy₁k edxCr Mutagenicity e bkosb skoglsguisnkC Cunckbxkuxgnguiak i Nixpor **Teratogenicity** e bkosbskogisguisnkC Cunckbxkuxgnguiak i Nixpor Developmental effects e bkos bskogl sgguisnkC. Cunckbxkuxgnguiak i Nixpor **Fertility effects**

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
xi a	r k 1 o 1

Section 12. Ecological information

Toxicity

Product/ingredient name	Result	Species	Exposure
C nis bsC	zudnCkt k knbk kla	k gokkg C _g i aCok _g xb Calo	k bd x c
	xCa kinCx		
Idnisbs C	zudn Cktkklaki xgs Ck	inCx zaliCkk oCaCnbsC ikubenind	k bd x c
	z u d n C k t k k n b k k	lak i sgikilsik	k bd x c
	xC o k i nC x	i x i C	
	zudnCkt k k k k xCo k inCx	go k k i Idogiki gs gok kz p dan	k bd x c
CsnisC pgbsC	zudnCkt k klakxCokinC	t xdeniu Cisek kt Cxgb pi s gik	k bd x c
		xCngudainikkixiC	
	zudnCkt k klakxCe kinC	x i sgikki sgikilsik e C sinC	k bd x c
		e C s i nC	
	zudnCkt k klakxCo kinC	gc kk C b gck i uxbu gxdc	k bd x c
uixibs kiaiuo kxC c gxiiaC k	zudnCkt kr klakxCokin	Cx i sgikki sgikilsik	k bd x c
ь рСх		e C s i nC	

Persistence and degradability

e b nki i gai l aC r

Bioaccumulative potential

Section 12. Ecological information

Product/ingredient name	LogPow	BCF	Potential
C nis bsC	r		ab
I d ni s b s C	r		ab
C s ni s C p gb s C	r		ab
ba Csnksi nik CnxbaCd		knb k	gl .

e bkosb skcglsguisnkC Cunckbxkuxgnguiak i Nixpcr

Mobility in soil

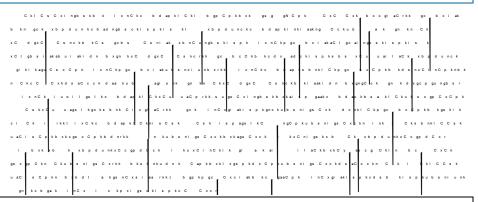
Soil/water partition coefficient (Koc)

coefficient (Koc)

Other adverse effects

Section 13. Disposal considerations

Disposal methods



Section 14. Transport information

Special precautions for user



	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	e	e	e	e	e
UN proper shipping name	z .e	z . e	z . e	z . e	z . e

saki pogagbal mapi bar i agbakul mmore Noka oli Chalink. Bako docani aka pilnopk. Ajmoli ook gegah najiir bar eni vervob. bar ezen Noka oli Capo vid. Oan ko doca i s

Section 14. Transport information

Transport hazard class(es)	Parametrical S				
Packing group					
Environmental hazards	e b r	e b r	e b r	e b r	e b r

i i C k

Section 15. Regulatory information

Philippines

Republic of Korea

Zakub , b c c no kl vo kage no p kb vko y c , no p r

Taiwan

Zakub , b c c no kl vo kage no p kb vko y c , no p r

Turkey

Section 16. Other information

Hazardous Material Information System (U.S.A.)



National Fire Protection Association (U.S.A.)





History

Date of issue/Date of revision

Version

MSDS #

Key to abbreviations

t k gbubsuCsnxingbskiunbx
k k abliaa k ix bsgNCpk cnC kb kt alccg guingbskispkilCaagsikb kt C guise
.z z k k.snCxsingbslakz gxk xisc b xnkz ccbugingbs
. tk k.snCx CpglnCk daekt bsnigsCx
. k k.snCxsingbslak ixgng Ck islCxbdck bbpc
bl b k kablixgn kb kn Ckbun sba inCxk ixngngbskubC gugCsn

1 1 C k

Section 16. Other information



Notice to reader





SAFETY DATA SHEET

Eclipse High Solids Polyurethane Enamel PC-233

Section 1. Identification

GHS product identifier : Eclipse High Solids Polyurethane Enamel PC-233

Other means of identification : PC-233 Curing Solution

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

: FOR INDUSTRIAL USE ONLY

Supplier/Manufacturer : Akzo Nobel Coatings, Inc.

1 East Water Street Waukegan, IL 60085

USA

Tel. 1 847 623 4200 Email: customer. service@akzonobel.com

Canadian Supplier : Akzo Nobel Coatings Ltd.

110 Woodbine Downs Blvd. Unit #4 Etobicoke, Ontario Canada M9W 5S6

Canada M9W 5S6 +1 (800) 618-1010

Emergency telephone number : CHEMTREC +1 (800) 424-9300 (Inside the US)

CHEMTREC International +1 (703) 527-3887 (Outside the US, collect calls

accepted)

Date of issue / Date of revision : 27 July 2021

Safety Data Sheet Version : 10.27

Date of printing : 27 July 2021

Akzo Nobel Coatings Inc. encourages and expects you to read and understand this entire MSDS, as there is important information throughout the document. Further, Akzo Nobel Coatings Inc. expects you to follow the precautions identified in this document unless your use conditions would necessitate other appropriate methods or actions.

To promote safe handling, each customer or recipient should: 1) Notify its employees, agents, contractors, and others whom it knows or believes will use this material of the information contained in this MSDS and any other information regarding hazards and safety; 2) Furnish this same information to each of its customers for the product; 3) Request its customers to notify their employees, customers, and other users of the product of this information; and 4) Notify its employees, agents, contractors, and others that the precautions identified for this product and any other products with which mixtures may be created are transferable and cumulative to the mixture.

Section 2. Hazards identification

OSHA/HCS status : This material is considered hazardous by the OSHA Hazard Communication Standard

(29 CFR 1910.1200).

Classification of the : ACUTE TOXICITY (inhalation) - Category 4

substance or mixture SKIN SENSITIZATION - Category 1

SPECIFIC TARGET ORGAN TOXICITY (SINGLE EXPOSURE) (Respiratory tract

irritation) - Category 3

Page: 2/12

Section 2. Hazards identification

GHS label elements

Hazard pictograms



Signal word : Warning

Hazard statements : Harmful if inhaled.

May cause an allergic skin reaction. May cause respiratory irritation.

Precautionary statements

Prevention : Wear protective gloves. Use only outdoors or in a well-ventilated area. Avoid breathing

vapor. Contaminated work clothing must not be allowed out of the workplace.

Response : IF INHALED: Remove person to fresh air and keep comfortable for breathing. Call a

POISON CENTER or physician if you feel unwell. IF ON SKIN: Wash with plenty of soap and water. Wash contaminated clothing before reuse. If skin irritation or rash

occurs: Get medical attention.

Storage : Store locked up.

Disposal : Dispose of contents and container in accordance with all local, regional, national and

international regulations.

Hazards not otherwise

classified

: None known.

Section 3. Composition/information on ingredients

Substance/mixture : Mixture

Ingredient name	%	CAS number
Hexamethylene diisocyanate, oligomers	95 - 100	28182-81-2

Any concentration shown as a range is to protect confidentiality or is due to batch variation.

There are no additional ingredients present which, within the current knowledge of the supplier and in the concentrations applicable, are classified as hazardous to health or the environment and hence require reporting in this section.

Occupational exposure limits, if available, are listed in Section 8.

Section 4. First aid measures

Description of necessary first aid measures

Eye contact : Immediately flush eyes with plenty of water, occasionally lifting the upper and lower

eyelids. Check for and remove any contact lenses. Continue to rinse for at least 10

minutes. Get medical attention if irritation occurs.

Inhalation : Remove victim to fresh air and keep at rest in a position comfortable for breathing. If it

is suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. If not breathing, if breathing is irregular or if respiratory arrest occurs, provide artificial respiration or oxygen by trained personnel. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Get medical attention. If necessary, call a poison center or physician. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband. In case of

Page: 3/12

Section 4. First aid measures

inhalation of decomposition products in a fire, symptoms may be delayed. The exposed person may need to be kept under medical surveillance for 48 hours.

Skin contact : Wash with plenty of soap and water. Remove contaminated clothing and shoes. Wash

contaminated clothing thoroughly with water before removing it, or wear gloves. Continue to rinse for at least 10 minutes. Get medical attention. In the event of any complaints or symptoms, avoid further exposure. Wash clothing before reuse. Clean

shoes thoroughly before reuse.

Ingestion : Wash out mouth with water. Remove dentures if any. Remove victim to fresh air and

keep at rest in a position comfortable for breathing. If material has been swallowed and the exposed person is conscious, give small quantities of water to drink. Stop if the exposed person feels sick as vomiting may be dangerous. Do not induce vomiting unless directed to do so by medical personnel. If vomiting occurs, the head should be kept low so that vomit does not enter the lungs. Get medical attention if adverse health effects persist or are severe. Never give anything by mouth to an unconscious person. If unconscious, place in recovery position and get medical attention immediately. Maintain an open airway. Loosen tight clothing such as a collar, tie, belt or waistband.

Most important symptoms/effects, acute and delayed

Potential acute health effects

Eye contactInhalation: No known significant effects or critical hazards.: Harmful if inhaled. May cause respiratory irritation.

Skin contact: May cause an allergic skin reaction.

Ingestion : No known significant effects or critical hazards.

Over-exposure signs/symptoms

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

Skin contact : Adverse symptoms may include the following:

irritation redness

Ingestion : No specific data.

Indication of immediate medical attention and special treatment needed, if necessary

Notes to physician : In case of inhalation of decomposition products in a fire, symptoms may be delayed.

The exposed person may need to be kept under medical surveillance for 48 hours.

Specific treatments : No specific treatment.

Protection of first-aiders : No action shall be taken involving any personal risk or without suitable training. If it is

suspected that fumes are still present, the rescuer should wear an appropriate mask or self-contained breathing apparatus. It may be dangerous to the person providing aid to give mouth-to-mouth resuscitation. Wash contaminated clothing thoroughly with water

before removing it, or wear gloves.

See toxicological information (Section 11)

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Section 5. Fire-fighting measures

Extinguishing media

Suitable extinguishing

media

Unsuitable extinguishing

media

: Use an extinguishing agent suitable for the surrounding fire.

: None known.

Specific hazards arising from the chemical

: In a fire or if heated, a pressure increase will occur and the container may burst.

Hazardous thermal decomposition products

: Decomposition products may include the following materials: carbon dioxide

carbon monoxide nitrogen oxides

Special protective actions for fire-fighters

: Promptly isolate the scene by removing all persons from the vicinity of the incident if there is a fire. No action shall be taken involving any personal risk or without suitable training.

Special protective equipment for fire-fighters

: Fire-fighters should wear appropriate protective equipment and self-contained breathing

apparatus (SCBA) with a full face-piece operated in positive pressure mode.

Section 6. Accidental release measures

Personal precautions, protective equipment and emergency procedures

For non-emergency personnel

: No action shall be taken involving any personal risk or without suitable training. Evacuate surrounding areas. Keep unnecessary and unprotected personnel from entering. Do not touch or walk through spilled material. Avoid breathing vapor or mist. Provide adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Put on appropriate personal protective equipment.

For emergency responders

If specialized clothing is required to deal with the spillage, take note of any information in Section 8 on suitable and unsuitable materials. See also the information in "For non-emergency personnel".

Environmental precautions

: Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers. Inform the relevant authorities if the product has caused environmental pollution (sewers, waterways, soil or air).

Methods and materials for containment and cleaning up

Small spill

: Stop leak if without risk. Move containers from spill area. Dilute with water and mop up if water-soluble. Alternatively, or if water-insoluble, absorb with an inert dry material and place in an appropriate waste disposal container. Dispose of via a licensed waste disposal contractor.

Large spill

Stop leak if without risk. Move containers from spill area. Approach release from upwind. Prevent entry into sewers, water courses, basements or confined areas. Wash spillages into an effluent treatment plant or proceed as follows. Contain and collect spillage with non-combustible, absorbent material e.g. sand, earth, vermiculite or diatomaceous earth and place in container for disposal according to local regulations (see Section 13). Dispose of via a licensed waste disposal contractor. Contaminated absorbent material may pose the same hazard as the spilled product. Note: see Section 1 for emergency contact information and Section 13 for waste disposal.

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Section 7. Handling and storage

Precautions for safe handling

Protective measures

: Put on appropriate personal protective equipment (see Section 8). Persons with a history of skin sensitization problems should not be employed in any process in which this product is used. Do not get in eyes or on skin or clothing. Do not ingest. Avoid breathing vapor or mist. Use only with adequate ventilation. Wear appropriate respirator when ventilation is inadequate. Keep in the original container or an approved alternative made from a compatible material, kept tightly closed when not in use. Empty containers retain product residue and can be hazardous. Do not reuse container.

Advice on general occupational hygiene

Eating, drinking and smoking should be prohibited in areas where this material is handled, stored and processed. Workers should wash hands and face before eating, drinking and smoking. Remove contaminated clothing and protective equipment before entering eating areas. See also Section 8 for additional information on hygiene measures.

Conditions for safe storage, : including any incompatibilities

Store in accordance with local regulations. Store in original container protected from direct sunlight in a dry, cool and well-ventilated area, away from incompatible materials (see Section 10) and food and drink. Store locked up. Keep container tightly closed and sealed until ready for use. Containers that have been opened must be carefully resealed and kept upright to prevent leakage. Do not store in unlabeled containers. Use appropriate containment to avoid environmental contamination.

Section 8. Exposure controls/personal protection

Control parameters

Occupational exposure limits

Ingredient name	Exposure limits
Hexamethylene diisocyanate, oligomers	None.

Appropriate engineering controls

: Use only with adequate ventilation. Use process enclosures, local exhaust ventilation or other engineering controls to keep worker exposure to airborne contaminants below any recommended or statutory limits.

Environmental exposure controls

: Emissions from ventilation or work process equipment should be checked to ensure they comply with the requirements of environmental protection legislation. In some cases, fume scrubbers, filters or engineering modifications to the process equipment will be necessary to reduce emissions to acceptable levels.

Individual protection measures

Hygiene measures

: Wash hands, forearms and face thoroughly after handling chemical products, before eating, smoking and using the lavatory and at the end of the working period. Appropriate techniques should be used to remove potentially contaminated clothing. Contaminated work clothing should not be allowed out of the workplace. Wash contaminated clothing before reusing. Ensure that eyewash stations and safety showers are close to the workstation location.

Eye/face protection

: Safety eyewear complying with an approved standard should be used when a risk assessment indicates this is necessary to avoid exposure to liquid splashes, mists, gases or dusts. If contact is possible, the following protection should be worn, unless the assessment indicates a higher degree of protection: safety glasses with sideshields.

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Section 8. Exposure controls/personal protection

Skin protection

Hand protection : Chemical-resistant, impervious gloves complying with an approved standard should be

worn at all times when handling chemical products if a risk assessment indicates this is necessary. Considering the parameters specified by the glove manufacturer, check during use that the gloves are still retaining their protective properties. It should be noted that the time to breakthrough for any glove material may be different for different glove manufacturers. In the case of mixtures, consisting of several substances, the

protection time of the gloves cannot be accurately estimated.

Body protection: Personal protective equipment for the body should be selected based on the task being

performed and the risks involved and should be approved by a specialist before

handling this product.

Other skin protection : Appropriate footwear and any additional skin protection measures should be selected

based on the task being performed and the risks involved and should be approved by a

specialist before handling this product.

Respiratory protection : Based on the hazard and potential for exposure, select a respirator that meets the

appropriate standard or certification. Respirators must be used according to a respiratory protection program to ensure proper fitting, training, and other important

aspects of use.

Section 9. Physical and chemical properties

Appearance

Physical state: Liquid.

Color : Colorless.

Odor : Mild.

Odor threshold: Not available.pH: Not available.Melting/freezing point: Not available.Boiling point: 45°C (113°F)boiling range: Not available.

Flash point : Closed cup: 166°C (330.8°F)

Evaporation rate : Not available.

Flammability (solid, gas) : Not available.

Upper/lower flammability or explosive limits

Upper: : Not determined.Lower: : Not determined.: Not available.: Not available.

Relative density : 1.16

Density : 9.68 lbs/gal 1.16 g/cm³

Solubility : Not available.

Solubility in water : Not available.

Partition coefficient: n- : Not available.

octanol/water

Vapor pressure

Vapor density

Auto-ignition temperature : Not available.

Decomposition temperature : Not available.

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Section 9. Physical and chemical properties

Viscosity : Kinematic (room temperature): 4.74 cm²/s (474 cSt)

 Weight Volatiles
 : 0% (w/w)

 Volume Volatiles
 : 0.00 %(v/v)

 Weight Solids
 : 100.00 %(w/w)

 Volume Solids
 : 100 %(v/v)

Regulatory VOC : 0.0 lbs/gal 0 g/l minus water and exempt solvents

VOC Actual : 0.0 lbs/gal 0 g/l

Section 10. Stability and reactivity

Reactivity : No specific test data related to reactivity available for this product or its ingredients.

Chemical stability : The product is stable.

Possibility of hazardous

reactions

: Under normal conditions of storage and use, hazardous reactions will not occur.

Conditions to avoid : No specific data.

Incompatible materials : No specific data.

Hazardous decomposition

products

: Under normal conditions of storage and use, hazardous decomposition products should

not be produced.

Section 11. Toxicological information

Information on toxicological effects

Acute toxicity

Product/ingredient name	Result	Species	Dose	Exposure
Hexamethylene diisocyanate, oligomers	LC50 Inhalation	Rat	18500 mg/m ³	1 hours

Irritation/Corrosion

Product/ingredient name	Result	Species	Score	Exposure	Observation
Hexamethylene diisocyanate, oligomers	Eyes - Moderate irritant	Rabbit	-	100 milligrams	-
	Skin - Moderate irritant	Rabbit	-	500 milligrams	-

Sensitization

Not available.

Mutagenicity

Not available.

Carcinogenicity

Not available.

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Section 11. Toxicological information

Reproductive toxicity

Not available.

Teratogenicity

Not available.

Specific target organ toxicity (single exposure)

Name	Category	Route of exposure	Target organs
Hexamethylene diisocyanate, oligomers	Category 3	Not applicable.	Respiratory tract irritation

Specific target organ toxicity (repeated exposure)

Not available.

Aspiration hazard

Not available.

Information on the likely

routes of exposure

: Not available.

Potential acute health effects

Eye contact : No known significant effects or critical hazards.Inhalation : Harmful if inhaled. May cause respiratory irritation.

Skin contact: May cause an allergic skin reaction.

Ingestion: No known significant effects or critical hazards.

Symptoms related to the physical, chemical and toxicological characteristics

Eye contact : No specific data.

Inhalation : Adverse symptoms may include the following:

respiratory tract irritation

coughing

Skin contact : Adverse symptoms may include the following:

irritation redness

Ingestion: No specific data.

Delayed and immediate effects and also chronic effects from short and long term exposure

Short term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Long term exposure

Potential immediate : Not available.

effects

Potential delayed effects : Not available.

Potential chronic health effects

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Section 11. Toxicological information

Not available.

General : Once sensitized, a severe allergic reaction may occur when subsequently exposed to

very low levels.

Carcinogenicity: No known significant effects or critical hazards.Mutagenicity: No known significant effects or critical hazards.Teratogenicity: No known significant effects or critical hazards.Developmental effects: No known significant effects or critical hazards.Fertility effects: No known significant effects or critical hazards.

Numerical measures of toxicity

Acute toxicity estimates

Route	ATE value
Inhalation (vapors)	11.01 mg/l

Section 12. Ecological information

Toxicity

Not available.

Persistence and degradability

Not available.

Bioaccumulative potential

Product/ingredient name	LogPow	BCF	Potential
Hexamethylene diisocyanate, oligomers	5.54	367.7	low

Mobility in soil

Soil/water partition coefficient (Koc)

: Not available.

Other adverse effects : No known significant effects or critical hazards.

Section 13. Disposal considerations

Disposal methods

: The generation of waste should be avoided or minimized wherever possible. Disposal of this product, solutions and any by-products should at all times comply with the requirements of environmental protection and waste disposal legislation and any regional local authority requirements. Dispose of surplus and non-recyclable products via a licensed waste disposal contractor. Waste should not be disposed of untreated to the sewer unless fully compliant with the requirements of all authorities with jurisdiction. Waste packaging should be recycled. Incineration or landfill should only be considered when recycling is not feasible. This material and its container must be disposed of in a

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Section 13. Disposal considerations

safe way. Care should be taken when handling emptied containers that have not been cleaned or rinsed out. Empty containers or liners may retain some product residues. Avoid dispersal of spilled material and runoff and contact with soil, waterways, drains and sewers.

Section 14. Transport information

Special precautions for user : Please Note: The information provided in section 14 is based on a bulk package shipment via ground transport in North America. All shippers are responsible for ensuring the proper transportation classification and package/container requirements are followed for the relevant mode of transport.

> Transport within user's premises: always transport in closed containers that are upright and secure. Ensure that persons transporting the product know what to do in the event of an accident or spillage.

	DOT Classification	TDG Classification	Mexico Classification	IMDG	IATA
UN number	Not regulated.	Not regulated.	Not regulated.	Not regulated.	Not regulated.
UN proper shipping name	-	-	-	-	-
Transport hazard class(es)	-	-	-	-	-
Packing group	-	-	-	-	-
Environmental hazards	No.	No.	No.	No.	No.

Section 15. Regulatory information

U.S. Federal regulations

United States inventory (TSCA 8b): All components are listed or exempted.

SARA 311/312

Classification : Immediate (acute) health hazard

California Prop. 65

Based on available information, no listed components are known to be present.

International lists **National inventory**

Australia : All components are listed or exempted.

Section 15. Regulatory information

Canada: All components are listed or exempted.China: All components are listed or exempted.Europe: All components are listed or exempted.

Japan : Japan inventory (ENCS): All components are listed or exempted.

Japan inventory (ISHL): At least one component is not listed.

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Malaysia: All components are listed or exempted.New Zealand: All components are listed or exempted.Philippines: All components are listed or exempted.Republic of Korea: All components are listed or exempted.Taiwan: All components are listed or exempted.Turkey: All components are listed or exempted.

Section 16. Other information

Hazardous Material Information System (U.S.A.)



Caution: HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. Although HMIS® ratings and the associated label are not required on SDSs or products leaving a facility under 29 CFR 1910.1200, the preparer may choose to provide them. HMIS® ratings are to be used with a fully implemented HMIS® program. HMIS® is a registered trademark and service mark of the American Coatings Association, Inc.

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National Fire Protection Association (U.S.A.)



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History

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Section 16. Other information

MSDS# : 007899 0007 0022A8FC60

Key to abbreviations : ATE = Acute Toxicity Estimate

BCF = Bioconcentration Factor

GHS = Globally Harmonized System of Classification and Labelling of Chemicals

IATA = International Air Transport Association

IBC = Intermediate Bulk Container

IMDG = International Maritime Dangerous Goods

LogPow = logarithm of the octanol/water partition coefficient

MARPOL = International Convention for the Prevention of Pollution From Ships, 1973 as

modified by the Protocol of 1978. ("Marpol" = marine pollution)

UN = United Nations

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