JEFFCAT® DPA

Version	Revision Date:	SDS Number:	Date of last issue: 05/19/2017
1.5	03/31/2020	400001000718	Date of first issue: 09/17/2015

Print Date 06/08/2020

SECTION 1. IDENTIFICATION

Product name : JEFFCAT® DPA

Manufacturer or supplier's details

Company name of supplier : Huntsman International LLC
Address : P.O. Box 4980
The Woodlands,
TX 77387
United States of America (USA)
Telephone : TechInfo: (281) 719-7780

E-mail address of person responsible for the SDS : Global_Product_EHS_HPP@huntsman.com

Emergency telephone number : Chemtrec: (800) 424-9300 or (703) 527-3887

Recommended use of the chemical and restrictions on use

Recommended use : Component of a Polyurethane System.

SECTION 2. HAZARDS IDENTIFICATION

GHS classification in accordance with 29 CFR 1910.1200

Skin corrosion : Category 1C

Serious eye damage : Category 1

Short-term (acute) aquatic hazard : Category 3

GHS label elements

Hazard pictograms :

Signal word : Danger

Hazard statements : H314 Causes severe skin burns and eye damage.
H402 Harmful to aquatic life.

Precautionary statements : **Prevention:**
P264 Wash skin thoroughly after handling.
P273 Avoid release to the environment.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P301 + P330 + P331 IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.

P303 + P361 + P353 IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water/ shower.
P304 + P340 + P310 IF INHALED: Remove person to fresh air and keep comfortable for breathing. Immediately call a POISON CENTER/ doctor.
P305 + P351 + P338 + P310 IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Immediately call a POISON CENTER/ doctor.
P363 Wash contaminated clothing before reuse.
Storage:
P405 Store locked up.
Disposal:
P501 Dispose of contents/container to an approved facility in accordance with local, regional, national and international regulations.

Other hazards

None known.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance / Mixture : Substance

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
1,1'-[[3-(dimethylamino)propyl]imino]bispropan-2-ol	63469-23-8	70 - 90
1,1'-(propenylimino)bispropan-2-ol	-	5 - 10
2,2'-{{3-(dimethylamino)propyl}imino}bispropan-1-ol	-	1 - 5
2-(3-dimethylaminopropyl-(2-hydroxypropyl)amino)propan-1-ol	-	1 - 5

The specific chemical identity and/or exact percentage (concentration) of composition may be withheld as a trade secret.

SECTION 4. FIRST AID MEASURES

General advice : Move out of dangerous area.
Consult a physician.
Show this safety data sheet to the doctor in attendance.
Treat symptomatically.
Get medical attention if symptoms occur.

If inhaled : If inhaled, remove to fresh air.
Get medical attention if symptoms occur.

In case of skin contact : Immediate medical treatment is necessary as untreated wounds from corrosion of the skin heal slowly and with

difficulty.
If on skin, rinse well with water.
If on clothes, remove clothes.

In case of eye contact	:	Small amounts splashed into eyes can cause irreversible tissue damage and blindness. In the case of contact with eyes, rinse immediately with plenty of water and seek medical advice. Continue rinsing eyes during transport to hospital. Remove contact lenses. Keep eye wide open while rinsing. If eye irritation persists, consult a specialist.
If swallowed	:	Clean mouth with water and drink afterwards plenty of water. Keep respiratory tract clear. Do NOT induce vomiting. Never give anything by mouth to an unconscious person. If symptoms persist, call a physician. Take victim immediately to hospital.
Most important symptoms and effects, both acute and delayed	:	None known.
Notes to physician	:	Treat symptomatically.

SECTION 5. FIREFIGHTING MEASURES

Suitable extinguishing media	:	Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Unsuitable extinguishing media	:	High volume water jet
Specific hazards during firefighting	:	Do not allow run-off from fire fighting to enter drains or water courses.
Hazardous combustion products	:	Carbon oxides Nitrogen oxides (NOx)
Specific extinguishing methods	:	No data is available on the product itself.
Further information	:	Collect contaminated fire extinguishing water separately. This must not be discharged into drains. Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.
Special protective equipment for firefighters	:	In the event of fire, wear self-contained breathing apparatus.

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protective equipment and emergency procedures	:	Use personal protective equipment. Refer to protective measures listed in sections 7 and 8.
Environmental precautions	:	Prevent product from entering drains. Prevent further leakage or spillage if safe to do so. If the product contaminates rivers and lakes or drains inform respective authorities.
Methods and materials for containment and cleaning up	:	Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust). Keep in suitable, closed containers for disposal.

SECTION 7. HANDLING AND STORAGE

Advice on protection against fire and explosion	:	Normal measures for preventive fire protection.
Advice on safe handling	:	Do not breathe vapours/dust. Avoid contact with skin and eyes. For personal protection see section 8. Smoking, eating and drinking should be prohibited in the application area. To avoid spills during handling keep bottle on a metal tray. Dispose of rinse water in accordance with local and national regulations.
Conditions for safe storage	:	Keep container tightly closed in a dry and well-ventilated place. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Observe label precautions. Keep in properly labelled containers.
Materials to avoid	:	For incompatible materials please refer to Section 10 of this SDS.
Further information on storage stability	:	Stable under normal conditions.

SECTION 8. EXPOSURE CONTROLS/PERSONAL PROTECTION

Components with workplace control parameters

Contains no substances with occupational exposure limit values.

Personal protective equipment

Respiratory protection	:	No personal respiratory protective equipment normally required.
Hand protection Directive	:	Use gloves approved to relevant standards e.g. EN 374 (Europe), F739 (US).
Material	:	butyl-rubber
Break through time	:	> 4 h

Material	:	Neoprene gloves
Break through time	:	> 4 h
Material	:	Polyvinyl Chloride (PVC)
Break through time	:	> 6 h
Material	:	Nitrile rubber
Break through time	:	> 6 h

Remarks	:	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. Gloves should be discarded and replaced if there is any indication of degradation or chemical breakthrough. The suitability for a specific workplace should be discussed with the producers of the protective gloves.
Eye protection	:	Eye wash bottle with pure water Tightly fitting safety goggles Wear face-shield and protective suit for abnormal processing problems.
Skin and body protection	:	Rubber or plastic boots Footwear protecting against chemicals Impervious clothing Choose body protection according to the amount and concentration of the dangerous substance at the work place.
Hygiene measures	:	When using do not eat or drink. When using do not smoke. Wash hands before breaks and at the end of workday.

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	liquid
Colour	:	light yellow
Odour	:	amine-like
Odour Threshold	:	No data is available on the product itself.
pH	:	11.7
Freezing point	:	< -4 °F / < -20 °C
Boiling point	:	Method: Boiling Temperature No data available
Flash point	:	284 °F / 140 °C Method: Flash-Point, closed cup

Evaporation rate	:	No data is available on the product itself.
Flammability (solid, gas)	:	No data is available on the product itself.
Flammability (liquids)	:	No data is available on the product itself.
Upper explosion limit / Upper flammability limit	:	No data is available on the product itself.
Lower explosion limit / Lower flammability limit	:	No data is available on the product itself.
Vapour pressure	:	0.19 Pa (68 °F / 20 °C) Method: Vapour Pressure
Relative vapour density	:	No data is available on the product itself.
Relative density	:	0.94 (68 °F / 20 °C) Method: Relative Density
Density	:	No data is available on the product itself.
Solubility(ies)		
Water solubility	:	100 g/l completely miscible (68 °F / 20 °C) Method: Water solubility
Solubility in other solvents	:	No data is available on the product itself.
Partition coefficient: n-octanol/water	:	log Pow: 1.24 (70 °F / 21 °C) pH: 11.5 Method: Partition coefficient
Auto-ignition temperature	:	500 °F / 260 °C Method: Auto-Ignition Temperature (Liquids and Gases)
Decomposition temperature	:	>= 455 °F / >= 235 °C Method: Boiling Temperature
Self-Accelerating decomposition temperature (SADT)	:	No data is available on the product itself.
Viscosity		
Viscosity, kinematic	:	194.3 mm2/s (68 °F / 20 °C)
Explosive properties	:	No data is available on the product itself.
Oxidizing properties	:	None.
Molecular weight	:	218 g/mol
Metal corrosion rate	:	Not corrosive to metals
Particle size	:	No data is available on the product itself.

SECTION 10. STABILITY AND REACTIVITY

Reactivity	:	No dangerous reaction known under conditions of normal use.
Chemical stability	:	Stable under normal conditions.
Possibility of hazardous reactions	:	No hazards to be specially mentioned.
Conditions to avoid	:	None known.
Incompatible materials	:	Incompatible with strong acids and oxidizing agents.
Hazardous decomposition products	:	Carbon monoxide Carbon dioxide (CO2) Ammonia Nitrogen oxides (NOx) Ketones

SECTION 11. TOXICOLOGICAL INFORMATION

Information on likely routes of exposure	:	No data is available on the product itself.

Acute toxicity

Acute oral toxicity - Product	:	Acute toxicity estimate : 2,442 mg/kg Method: Calculation method
Acute inhalation toxicity	:	No data available
Acute dermal toxicity - Product	:	Acute toxicity estimate : 3,956 mg/kg Method: Calculation method
Acute toxicity (other routes of administration)	:	No data available

Skin corrosion/irritation

Components:

1,1'-[[3-(dimethylamino)propyl]imino]bispropan-2-ol**:**
Species: Rabbit
Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.

Species: Rabbit
Method: OECD Test Guideline 404
Result: Corrosive, category 1C - where responses occur after exposures between 1 hour and 4 hours and observations up to 14 days.
GLP: yes

2,2'-{{3-(dimethylamino)propyl}imino}bispropan-1-ol**:**
Assessment: Irritating to skin.

Result: Irritating to skin.

2-(3-dimethylaminopropyl-(2-hydroxypropyl)amino)propan-1-ol**:**
Assessment: Irritating to skin.
Result: Irritating to skin.

Serious eye damage/eye irritation

Components:

1,1'-[[3-(dimethylamino)propyl]imino]bispropan-2-ol**:**
Species: Rabbit
Result: Risk of serious damage to eyes.
Assessment: Risk of serious damage to eyes.
Method: OECD Test Guideline 405
GLP: no

2,2'-{{3-(dimethylamino)propyl}imino}bispropan-1-ol**:**
Result: Irritating to eyes.
Assessment: Irritating to eyes.

2-(3-dimethylaminopropyl-(2-hydroxypropyl)amino)propan-1-ol**:**
Result: Irritating to eyes.
Assessment: Irritating to eyes.

Respiratory or skin sensitisation

Components:

1,1'-[[3-(dimethylamino)propyl]imino]bispropan-2-ol**:**
Exposure routes: Skin
Species: No information available.
Result: No data available

Exposure routes: Respiratory Tract
Species: No information available.
Result: No data available

Assessment: No data available

Germ cell mutagenicity

Product:

Genotoxicity in vitro : Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 471
Result: negative

Metabolic activation: with and without metabolic activation
Method: OECD Test Guideline 476
Result: negative

Product:

Genotoxicity in vivo : Application Route: Oral
Dose: 500 - 2000 mg/kg
Method: OECD Test Guideline 474
Result: negative

Germ cell mutagenicity-Assessment : No data available

Carcinogenicity

No data available

Carcinogenicity - Assessment : No data available

IARC No component of this product present at levels greater than or equal to 0.1% is identified as probable, possible or confirmed human carcinogen by IARC.

ACGIH No component of this product present at levels greater than or equal to 0.1% is identified as a carcinogen or potential carcinogen by ACGIH.

OSHA No component of this product present at levels greater than or equal to 0.1% is on OSHA's list of regulated carcinogens.

NTP No component of this product present at levels greater than or equal to 0.1% is identified as a known or anticipated carcinogen by NTP.

Reproductive toxicity

Product:

Effects on fertility : Species: Rat, male and female
Application Route: Oral
Method: OECD Test Guideline 422

Effects on foetal development : No data available

Reproductive toxicity - Assessment : No data available

STOT - single exposure

No data available

STOT - repeated exposure

No data available

Repeated dose toxicity

Product:

Species: Rat, male and female
NOAEL: > 500 mg/kg/d
Application Route: Ingestion
Number of exposures: 7 d
Method: Subacute toxicity

Repeated dose toxicity - : No data available

Assessment

Aspiration toxicity
No data available

Experience with human exposure

General Information:	No data available
Inhalation:	No data available
Skin contact:	No data available
Eye contact:	No data available
Ingestion:	No data available

Toxicology, Metabolism, Distribution
No data available

Neurological effects
No data available

Further information

Ingestion:	No data available

SECTION 12. ECOLOGICAL INFORMATION

Ecotoxicity

Toxicity to fish - Product	:	LC50 (Oncorhynchus mykiss (rainbow trout)): > 120 mg/l Exposure time: 96 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 203
Toxicity to daphnia and other aquatic invertebrates - Product	:	EC50 (Daphnia magna (Water flea)): > 100 mg/l Exposure time: 48 h Test Type: static test Test substance: Fresh water Method: ISO 6341
Toxicity to algae/aquatic plants - Product	:	ErC50 (Selenastrum capricornutum (green algae)): 56 mg/l Exposure time: 72 h Test Type: static test Test substance: Fresh water Method: Directive 67/548/EEC, Annex V, C.3.

M-Factor (Acute aquatic toxicity)	:	No data available
Toxicity to fish (Chronic toxicity)	:	No data available
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	:	No data available
M-Factor (Chronic aquatic toxicity)	:	No data available
Toxicity to microorganisms - Product	:	EC50 (activated sludge): > 1,000 mg/l Exposure time: 3 h Test Type: static test Test substance: Fresh water Method: OECD Test Guideline 209
Toxicity to soil dwelling organisms	:	No data available
Plant toxicity	:	No data available
Sediment toxicity	:	No data available
Toxicity to terrestrial organisms	:	No data available

Ecotoxicology Assessment

Components:

1,1'-(propenylimino)bispropan-2-ol**:**

Acute aquatic toxicity	:	Toxic to aquatic life.

Components:

1,1'-(propenylimino)bispropan-2-ol**:**

Chronic aquatic toxicity	:	This product has no known ecotoxicological effects.
Toxicity Data on Soil	:	No data available
Other organisms relevant to the environment	:	No data available

Persistence and degradability

Biodegradability - Product	:	Inoculum: activated sludge Result: Not readily biodegradable. Biodegradation: 17 % Exposure time: 28 d Method: Directive 67/548/EEC Annex V, C.4.C.
Biochemical Oxygen Demand (BOD)	:	No data available

Chemical Oxygen Demand (COD)	:	No data available
BOD/COD	:	No data available
ThOD	:	No data available
BOD/ThOD	:	No data available
Dissolved organic carbon (DOC)	:	No data available
Physico-chemical removability	:	No data available
Stability in water	:	No data available
Photodegradation	:	No data available
Impact on Sewage Treatment	:	No data available

Bioaccumulative potential

Bioaccumulation	:	No data available
Partition coefficient: n-octanol/water - Product	:	log Pow: 1.24 (70 °F / 21 °C) pH: 11.5 Method: Partition coefficient

Mobility in soil

Mobility	:	No data available
Distribution among environmental compartments - Product	:	Koc: 347
Stability in soil	:	No data available

Other adverse effects

Environmental fate and pathways	:	No data available
Results of PBT and vPvB assessment	:	No data available
Endocrine disrupting potential	:	No data available
Adsorbed organic bound halogens (AOX)	:	No data available

Hazardous to the ozone layer

Ozone-Depletion Potential	:	Regulation: 40 CFR Protection of Environment; Part 82 Protection of Stratospheric Ozone - CAA Section 602 Class I

Substances
Remarks: This product neither contains, nor was manufactured with a Class I or Class II ODS as defined by the U.S. Clean Air Act Section 602 (40 CFR 82, Subpt. A, App.A + B).

Additional ecological information - Product : An environmental hazard cannot be excluded in the event of unprofessional handling or disposal.
Harmful to aquatic life.

Global warming potential (GWP) : No data available

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods

Waste from residues : The product should not be allowed to enter drains, water courses or the soil.
Do not contaminate ponds, waterways or ditches with chemical or used container.
Send to a licensed waste management company.
Dispose of as hazardous waste in compliance with local and national regulations.
Dispose of contents/ container to an approved waste disposal plant.

Contaminated packaging : Empty remaining contents.
Dispose of as unused product.
Do not re-use empty containers.

SECTION 14. TRANSPORT INFORMATION

International Regulations

IATA

UN/ID No.	:	UN 2735
Proper shipping name	:	Amines, liquid, corrosive, n.o.s. (1,1'-[[3-(DIMETHYLAMINO)PROPYL]IMINO]BIS(2-PROPANOL))
Class	:	8
Packing group	:	III
Labels	:	Corrosive
Packing instruction (cargo aircraft)	:	856
Packing instruction (passenger aircraft)	:	852

IMDG

UN number	:	UN 2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S.

(1,1'-[[3-(DIMETHYLAMINO)PROPYL]IMINO]BIS(2-PROPANOL))

Class	:	8
Packing group	:	III
Labels	:	8
EmS Code	:	F-A, S-B
Marine pollutant	:	no

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

Not applicable for product as supplied.

National Regulations

DOT Classification

UN/ID/NA number	:	UN 2735
Proper shipping name	:	AMINES, LIQUID, CORROSIVE, N.O.S. (1,1'-[[3-(DIMETHYLAMINO)PROPYL]IMINO]BIS(2-PROPANOL))
Class	:	8
Packing group	:	III
Labels	:	CORROSIVE
ERG Code	:	153
Marine pollutant	:	no

Special precautions for user

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

SECTION 15. REGULATORY INFORMATION

EPCRA - Emergency Planning and Community Right-to-Know Act

CERCLA Reportable Quantity

This material does not contain any components with a CERCLA RQ.

SARA 311/312 Hazards	:	Skin corrosion or irritation Serious eye damage or eye irritation
SARA 313	:	This material does not contain any chemical components with known CAS numbers that exceed the threshold (De Minimis) reporting levels established by SARA Title III, Section 313.

This product does not contain any hazardous air pollutants (HAP), as defined by the U.S. Clean Air Act Section 112 (40 CFR 61).

California Prop. 65

This product does not contain any chemicals known to State of California to cause cancer, birth defects, or any other reproductive harm.

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

DSL	:	All components of this product are on the Canadian DSL

AICS	:	Not in compliance with the inventory
NZIoC	:	On the inventory, or in compliance with the inventory
ENCS	:	Notified. Allowed to be imported only by the notifier.
KECI	:	On the inventory, or in compliance with the inventory
PICCS	:	On the inventory, or in compliance with the inventory
IECSC	:	On the inventory, or in compliance with the inventory
TCSI	:	On the inventory, or in compliance with the inventory
TSCA	:	On the inventory, or in compliance with the inventory

Inventories

AICS (Australia), DSL (Canada), IECSC (China), REACH (European Union), ENCS (Japan), ISHL (Japan), KECI (Korea), NZIoC (New Zealand), PICCS (Philippines), TCSI (Taiwan), TSCA (USA)

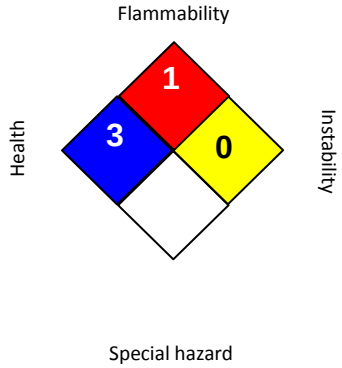
TSCA - 5(a) Significant New Use Rule List of Chemicals
No substances are subject to a Significant New Use Rule.

US. Toxic Substances Control Act (TSCA) Section 12(b) Export Notification (40 CFR 707, Subpt D)
No substances are subject to TSCA 12(b) export notification requirements.

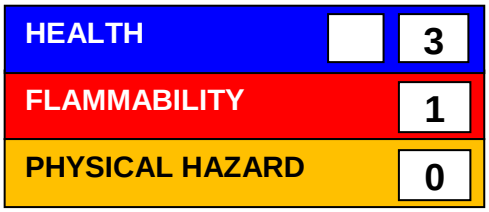
SECTION 16. OTHER INFORMATION

Further information

NFPA 704:



HMIS® IV:



HMIS® ratings are based on a 0-4 rating scale, with 0 representing minimal hazards or risks, and 4 representing significant hazards or risks. The "*" represents a chronic hazard, while the "/" represents the absence of a chronic hazard

Revision Date	:	03/31/2020

The information and recommendations in this publication are to the best of our knowledge, information and belief accurate at the date of publication, NOTHING HEREIN IS TO BE CONSTRUED AS A WARRANTY, EXPRESS OR OTHERWISE.

IN ALL CASES, IT IS THE RESPONSIBILITY OF THE USER TO DETERMINE THE APPLICABILITY OF SUCH INFORMATION AND RECOMMENDATIONS AND THE SUITABILITY OF ANY PRODUCT FOR ITS OWN PARTICULAR PURPOSE.

THE PRODUCT MAY PRESENT HAZARDS AND SHOULD BE USED WITH CAUTION. WHILE CERTAIN HAZARDS ARE DESCRIBED IN THIS PUBLICATION, NO GUARANTEE IS MADE THAT THESE ARE THE ONLY HAZARDS THAT EXIST.

Hazards, toxicity and behaviour of the products may differ when used with other materials and are dependent upon the manufacturing circumstances or other processes. Such hazards, toxicity and behaviour should be determined by the user and made known to handlers, processors and end users.

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