Version 1.3	Revision Date: 2016-05-23		DS Number: 00001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012		
SECTIO	N 1. IDENTIFICATION					
Pro	duct name	:	Shell Rotella T6 0W-40			
Pro	duct code	:	001E3851	001E3851		
Manufacturer or supplier's c		det	ails			
Manufacturer/Supplier		:	Shell Canada Products 400 - 4th Avenue S.W Calgary AB T2P 0J4 Canada			
	ephone efax		(+1) 8006611600 (+1) 4033848345			
	Emergency telephone num- ber		CHEMTREC (24 hr): 1 (703) 527-3887 or 1 (800) 424-930 (US) CANUTEC (24 hr): (+1) 613-996-6666; Toll Free: 1-888-C UTEC (226-8832)			
Rec	commended use of the c	cher	nical and restricti	ons on use		
Rec	Recommended use		Engine oil.			

SECTION 2. HAZARDS IDENTIFICATION

GHS Classification

Not a hazardous substance or mixture.

GHS label elements

14	800001028992
Precautionary statements	 Prevention: No precautionary phrases. Response: No precautionary phrases. Storage:
Hazard statements	 PHYSICAL HAZARDS: Not classified as a physical hazard under GHS criteria. HEALTH HAZARDS: Not classified as a health hazard under GHS criteria. ENVIRONMENTAL HAZARDS: Not classified as an environmental hazard under GHS criteria.
Signal word	: No signal word
Hazard pictograms	: No Hazard Symbol required

Version	Revision Date:	SDS Number:	Print Date: 2016-05-24
1.3	2016-05-23	800001028992	Date of last issue: 13.04.2016
			Date of first issue: 27.09.2012

No precautionary phrases. **Disposal:** No precautionary phrases.

Other hazards which do not result in classification

Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis. Used oil may contain harmful impurities.

Not classified as flammable but will burn.

SECTION 3. COMPOSITION/INFORMATION ON INGREDIENTS

Substance name	: Shell Rotella T6 0W-40
Chemical nature	 Synthetic base oil and additives. Highly refined mineral oil. The highly refined mineral oil contains <3% (w/w) DMSO- extract, according to IP346. The highly refined mineral oil is only present as additive dilu- ent.

Hazardous components

Chemical name	CAS-No.	Concentration (% w/w)
Zinc dialkyl dithiophosphate	84605-29-8	1 - 2.4

SECTION 4. FIRST-AID MEASURES

General advice	Not expected to be a health hazard when used un conditions.	der normal
If inhaled	No treatment necessary under normal conditions of If symptoms persist, obtain medical advice.	of use.
In case of skin contact	Remove contaminated clothing. Flush exposed are ter and follow by washing with soap if available. If persistent irritation occurs, obtain medical attent	
In case of eye contact	Flush eye with copious quantities of water. If persistent irritation occurs, obtain medical attent	on.
If swallowed	In general no treatment is necessary unless large are swallowed, however, get medical advice.	quantities
Most important symptoms and effects, both acute and delayed	Oil acne/folliculitis signs and symptoms may includ of black pustules and spots on the skin of exposed Ingestion may result in nausea, vomiting and/or dia	l areas.
Protection of first-aiders	When administering first aid, ensure that you are v appropriate personal protective equipment accord incident, injury and surroundings.	

Version 1.3	Revision Date: 2016-05-23	SDS Number: 800001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012
Notes	s to physician	: Treat symptom	atically.

SECTION 5. FIRE-FIGHTING MEASURES

Suitable extinguishing media	:	Foam, water spray or fog. Dry chemical powder, carbon diox- ide, sand or earth may be used for small fires only.
Unsuitable extinguishing media	:	Do not use water in a jet.
Specific hazards during fire- fighting	:	Hazardous combustion products may include: A complex mixture of airborne solid and liquid particulates and gases (smoke). Carbon monoxide may be evolved if incomplete combustion occurs. Unidentified organic and inorganic compounds.
Specific extinguishing meth- ods	:	Use extinguishing measures that are appropriate to local cir- cumstances and the surrounding environment.
Special protective equipment for firefighters	:	Proper protective equipment including chemical resistant gloves are to be worn; chemical resistant suit is indicated if large contact with spilled product is expected. Self-Contained Breathing Apparatus must be worn when approaching a fire in a confined space. Select fire fighter's clothing approved to relevant Standards (e.g. Europe: EN469).

SECTION 6. ACCIDENTAL RELEASE MEASURES

Personal precautions, protec- tive equipment and emer- gency procedures	:	Avoid contact with skin and eyes.
Environmental precautions	:	Use appropriate containment to avoid environmental contami- nation. Prevent from spreading or entering drains, ditches or rivers by using sand, earth, or other appropriate barriers.
		Local authorities should be advised if significant spillages cannot be contained.
Methods and materials for containment and cleaning up	:	Slippery when spilt. Avoid accidents, clean up immediately. Prevent from spreading by making a barrier with sand, earth or other containment material. Reclaim liquid directly or in an absorbent. Soak up residue with an absorbent such as clay, sand or other suitable material and dispose of properly.
Additional advice	:	For guidance on selection of personal protective equipment see Chapter 8 of this Safety Data Sheet. For guidance on disposal of spilled material see Chapter 13 of
3 / 14		800001028992

Version 1.3	Revision Date: 2016-05-23	SDS Number: 800001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012	
		this Safety Da	ata Sheet.	
SECTION	N 7. HANDLING AND S	TORAGE		
Gen	eral Precautions	vapours, mist Use the inforr sessment of l	aust ventilation if there is risk of inhalation of s or aerosols. nation in this data sheet as input to a risk as- ocal circumstances to help determine appropri- or safe handling, storage and disposal of this	
Advi	ce on safe handling	Avoid inhaling When handlin worn and pro Properly dispo	ed or repeated contact with skin. g vapour and/or mists. g product in drums, safety footwear should be per handling equipment should be used. ose of any contaminated rags or cleaning mate- o prevent fires.	
Avoi	dance of contact	: Strong oxidisi	ng agents.	
Product Transfer		Proper ground	This material has the potential to be a static accumulator. Proper grounding and bonding procedures should be used during all bulk transfer operations.	
Stor	age			
Othe	er data	place.	er tightly closed and in a cool, well-ventilated labeled and closable containers.	
		Store at ambi	ent temperature.	
Pack	kaging material		rial: For containers or container linings, use mild density polyethylene. aterial: PVC.	
Cont	tainer Advice		containers should not be exposed to high tem- ause of possible risk of distortion.	

SECTION 8. EXPOSURE CONTROLS AND PERSONAL PROTECTION

Components with workplace control parameters

(Form of	Control parame-	Basis
exposure)	concentration	
able frac-	5 mg/m3	US. ACGIH Threshold Limit Values
	d TWA ((inhal-	exposure) concentration d TWA ((inhal- able frac- 5 mg/m3

Version	Revision Date:	SDS Number:
1.3	2016-05-23	800001028992

Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012

TWA (Mist)	5 mg/m3	OSHA Z-1
TWA (Inhal- able fraction)	5 mg/m3	ACGIH

Biological occupational exposure limits

No biological limit allocated.

Monitoring Methods

Monitoring of the concentration of substances in the breathing zone of workers or in the general workplace may be required to confirm compliance with an OEL and adequacy of exposure controls. For some substances biological monitoring may also be appropriate.

Validated exposure measurement methods should be applied by a competent person and samples analysed by an accredited laboratory.

Examples of sources of recommended exposure measurement methods are given below or contact the supplier. Further national methods may be available.

National Institute of Occupational Safety and Health (NIOSH), USA: Manual of Analytical Methods http://www.cdc.gov/niosh/

Occupational Safety and Health Administration (OSHA), USA: Sampling and Analytical Methods http://www.osha.gov/

Health and Safety Executive (HSE), UK: Methods for the Determination of Hazardous Substances http://www.hse.gov.uk/

Institut für Arbeitsschutz Deutschen Gesetzlichen Unfallversicherung (IFA), Germany http://www.dguv.de/inhalt/index.jsp

L'Institut National de Recherche et de Securité, (INRS), France http://www.inrs.fr/accueil

Engineering measures

: The level of protection and types of controls necessary will vary depending upon potential exposure conditions. Select controls based on a risk assessment of local circumstances. Appropriate measures include:

Adequate ventilation to control airborne concentrations.

Where material is heated, sprayed or mist formed, there is greater potential for airborne concentrations to be generated.

General Information:

Define procedures for safe handling and maintenance of controls.

Educate and train workers in the hazards and control measures relevant to normal activities associated with this product.

Ensure appropriate selection, testing and maintenance of equipment used to control exposure, e.g. personal protective equipment, local exhaust ventilation.

Drain down system prior to equipment break-in or maintenance.

Retain drain downs in sealed storage pending disposal or subsequent recycle.

Always observe good personal hygiene measures, such as washing hands after handling the material and before eating, drinking, and/or smoking. Routinely wash work clothing and protective equipment to remove contaminants. Discard contaminated clothing and footwear that cannot be cleaned.

Version 1.3	Revision Date: 2016-05-23	SDS Number: 800001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012
		Practice good	d housekeeping.
	onal protective equip	: No respirator conditions of In accordanc tions should	e with good industrial hygiene practices, precau- be taken to avoid breathing of material.
		tions to a levi select respira cific conditior Check with re Where air-filt priate combir Select a filter	g controls do not maintain airborne concentra- el which is adequate to protect worker health, atory protection equipment suitable for the spe- ns of use and meeting relevant legislation. espiratory protective equipment suppliers. ering respirators are suitable, select an appro- nation of mask and filter. suitable for the combination of organic gases [Type A/Type P boiling point >65°C (149°F)].
	protection		
Re	emarks	gloves appro US: F739) m suitable chen gloves Suitat usage, e.g. fr sistance of gl glove supplie Personal hyg Gloves must gloves, hand cation of a no For continuou through time 480 minutes short-term/sp recognize tha may not be a time maybe a and replacen a good predic dependent on Glove thickne	contact with the product may occur the use of ved to relevant standards (e.g. Europe: EN374, ade from the following materials may provide nical protection. PVC, neoprene or nitrile rubber polity and durability of a glove is dependent on requency and duration of contact, chemical re- love material, dexterity. Always seek advice from rs. Contaminated gloves should be replaced. iene is a key element of effective hand care. only be worn on clean hands. After using s should be washed and dried thoroughly. Appli- on-perfumed moisturizer is recommended. us contact we recommend gloves with break- of more than 240 minutes with preference for > where suitable gloves can be identified. For lash protection we recommend the same, but at suitable gloves offering this level of protection vailable and in this case a lower breakthrough acceptable so long as appropriate maintenance nent regimes are followed. Glove thickness is not ctor of glove resistance to a chemical as it is in the exact composition of the glove material. ess should be typically greater than 0.35 mm in the glove make and model.
Eyeı	protection		handled such that it could be splashed into eyes, ewear is recommended.
Skin	and body protection	work clothes.	on is not ordinarily required beyond standard ctice to wear chemical resistant gloves.
Ther	mal hazards	: Not applicabl	e

Version 1.3	Revision Date: 2016-05-23	SDS Number: 800001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012
Protec	tive measures		ve equipment (PPE) should meet recom- standards. Check with PPE suppliers.
Enviro	onmental exposure co	ontrols	
Gener	al advice	vant environmen of the environme necessary, preve charged to waste municipal or indu discharge to surf Local guidelines	measures to fulfill the requirements of rele- tal protection legislation. Avoid contamination int by following advice given in Chapter 6. If ant undissolved material from being dis- water. Waste water should be treated in a strial waste water treatment plant before ace water. on emission limits for volatile substances d for the discharge of exhaust air containing

SECTION 9. PHYSICAL AND CHEMICAL PROPERTIES

Appearance	:	Liquid at high temperatures.
Colour	:	amber
Odour	:	Slight hydrocarbon
Odour Threshold	:	Data not available
рН	:	Not applicable
pour point	:	-51 °C / -60 °F Method: ASTM D97
Initial boiling point and boiling range	:	> 280 °C / 536 °F estimated value(s)
Flash point	:	226 °C / 439 °F
		Method: ASTM D92
Evaporation rate	:	Data not available
Flammability (solid, gas)	:	Data not available
Upper explosion limit	:	Typical 10 %(V)
Lower explosion limit	:	Typical 1 %(V)
Vapour pressure	:	< 0.5 Pa (20 °C / 68 °F) estimated value(s)
Relative vapour density	:	> 1

Version Revision Date: 1.3 2016-05-23	SDS Number: 800001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012
	estimated value	(S)
Relative density	: 0.845 (15 °C / 5	9 °F)
Density	: 845 kg/m3 (15.0) °C / 59.0 °F)Method: ASTM D4052
Solubility(ies) Water solubility	: negligible	
Solubility in other solvents	: Data not availat	ble
Partition coefficient: n- octanol/water	: Pow: > 6 (based on inforr	nation on similar products)
Auto-ignition temperature	: > 320 °C / 608 °	Ϋ́F
Viscosity Viscosity, dynamic	: Data not availat	ble
Viscosity, kinematic	: 13.2 mm2/s (10 Method: ASTM	
	75 mm2/s (40.0 Method: ASTM	
Explosive properties	: Not classified	
Oxidizing properties	: Data not availat	ble
Conductivity	: This material is	not expected to be a static accumulator.
Decomposition temperature	: Data not availat	ble

SECTION 10. STABILITY AND REACTIVITY

Reactivity		The product does not pose any further reactivity hazards in addition to those listed in the following sub-paragraph.
Chemical stability	:	Stable.
Possibility of hazardous reac- tions	:	Reacts with strong oxidising agents.
Conditions to avoid	:	Extremes of temperature and direct sunlight.
Incompatible materials	:	Strong oxidising agents.
Hazardous decomposition products		Hazardous decomposition products are not expected to form during normal storage.

Version	Revision Date:	SDS Number:	Print Date: 2016-05-24
1.3	2016-05-23	800001028992	Date of last issue: 13.04.2016
			Date of first issue: 27.09.2012

SECTION 11. TOXICOLOGICAL INFORMATION

Basis for assessment : Information given is based on data on the components and the toxicology of similar products.Unless indicated otherwise, the data presented is representative of the product as a whole, rather than for individual component(s).

Information on likely routes of exposure

Skin and eye contact are the primary routes of exposure although exposure may occur following accidental ingestion.

Acute toxicity

Product:	
Acute oral toxicity	: LD50 (rat): > 5,000 mg/kg Remarks: Expected to be of low toxicity:
Acute inhalation toxicity	: Remarks: Not considered to be an inhalation hazard under normal conditions of use.
Acute dermal toxicity	: LD50 (Rabbit): > 5,000 mg/kg Remarks: Expected to be of low toxicity:

Skin corrosion/irritation

Product:

Remarks: Expected to be slightly irritating. Prolonged or repeated skin contact without proper cleaning can clog the pores of the skin resulting in disorders such as oil acne/folliculitis.

Serious eye damage/eye irritation

Product:

Remarks: Expected to be slightly irritating.

Components:

Zinc dialkyl dithiophosphate:

Remarks: Based on available data, the classification criteria are not met.

Respiratory or skin sensitisation

Product:

Remarks: Not expected to be a skin sensitiser.

Germ cell mutagenicity

Product:

Genotoxicity in vivo	:	Remarks: Not considered a mutagenic hazard
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Version	Revision Date:	SDS Number:	Print I
1.3	2016-05-23	800001028992	Date

Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012

Carcinogenicity

Product:

Remarks: Not expected to be carcinogenic.

Reproductive toxicity

Product:

Effects on fertility

Remarks: Not expected to impair fertility. Not expected to be a developmental toxicant.

STOT - single exposure

Product:

Remarks: Not expected to be a hazard.

STOT - repeated exposure

Product:

Remarks: Not expected to be a hazard.

Aspiration toxicity

Product:

Not considered an aspiration hazard.

Further information

Product:

Remarks: Used oils may contain harmful impurities that have accumulated during use. The concentration of such impurities will depend on use and they may present risks to health and the environment on disposal.

ALL used oil should be handled with caution and skin contact avoided as far as possible.

Remarks: Continuous contact with used engine oils has caused skin cancer in animal tests.

Remarks: Slightly irritating to respiratory system.

SECTION 12. ECOLOGICAL INFORMATION

Basis for assessment	 Ecotoxicological data have not been determined specifically for this product. Information given is based on a knowledge of the components and the ecotoxicology of similar products. Unless indicated otherwise, the data presented is representa- tive of the product as a whole, rather than for individual com- ponent(s).(LL/EL/IL50 expressed as the nominal amount of product required to prepare aqueous test extract)
	product required to prepare aqueous test extract).

rsion	Revision Date: 2016-05-23		0S Number: 0001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012	
Ecoto	oxicity				
<u>Produ</u>	uct:				
Toxicity to fish (Acute toxici- ty)		:	Remarks: Expect LL/EL/IL50 > 100	ed to be practically non toxic: mg/l	
Toxicity to crustacean (Acute toxicity)		:	Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l		
Toxicity to algae/aquatic plants (Acute toxicity)		:	Remarks: Expected to be practically non toxic: LL/EL/IL50 > 100 mg/l		
Toxicity to fish (Chronic tox- icity)		:	Remarks: Data not available		
Toxicity to crustacean (Chronic toxicity) Toxicity to microorganisms (Acute toxicity)		:	Remarks: Data no	ot available	
		:	: Remarks: Data not available		
Persi	stence and degradabili	ity			
<u>Produ</u>	<u>uct:</u>				
Biodegradability		:	 Remarks: Expected to be not readily biodegradable. Major constituents are expected to be inherently biodegrada ble, but contains components that may persist in the environ ment. 		
Bioac	cumulative potential				
Produ	ıct:				
	cumulation	:	Remarks: Contair cumulate.	ns components with the potential to bioac-	
Partition coefficient: n- octanol/water		:	 Pow: > 6 Remarks: (based on information on similar products) 		
Mobil	ity in soil				
<u>Produ</u>	<u>uct:</u>				
Mobility		:		under most environmental conditions. will adsorb to soil particles and will not be	
			Remarks: Floats	on water.	

Versio 1.3	on	Revision Date: 2016-05-23	SDS Number: 800001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012
<u>F</u> /	Produc	adverse effects <u>et:</u> nal ecological infor-	expected to be re Not expected to I cal ozone creatio Poorly soluble m	ure of non-volatile components, which are not eleased to air in any significant quantities. have ozone depletion potential, photochemi- in potential or global warming potential. ixture. cal fouling of aquatic organisms.

SECTION 13. DISPOSAL CONSIDERATIONS

Disposal methods Waste from residues	: Waste product should not be allowed to contaminate soil or ground water, or be disposed of into the environment. Waste, spills or used product is dangerous waste.
	Disposal should be in accordance with applicable regional, national, and local laws and regulations. Local regulations may be more stringent than regional or na- tional requirements and must be complied with.
Contaminated packaging	: Dispose in accordance with prevailing regulations, preferably to a recognized collector or contractor. The competence of the collector or contractor should be established beforehand. Disposal should be in accordance with applicable regional, national, and local laws and regulations.

SECTION 14. TRANSPORT INFORMATION

National Regulations

TDG

Not regulated as a dangerous good

International Regulation

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

Pollution category	: Not applicable
Ship type	: Not applicable
Product name	: Not applicable
Special precautions	: Not applicable

Special precautions for user

Version 1.3	Revision Date: 2016-05-23	SDS Number: 800001028992	Print Date: 2016-05-24 Date of last issue: 13.04.2016 Date of first issue: 27.09.2012	
Remarks		Special Precautions: Refer to Chapter 7, Handling & Storage, for special precautions which a user needs to be aware of or needs to comply with in connection with transport.		
Additional Information		: MARPOL Annex 1 rules apply for bulk shipments by sea.		

SECTION 15. REGULATORY INFORMATION

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

This product has been classified in accordance with the hazard criteria of the Hazardous Products Regulations (HPR) and the SDS contains all the information required by the HPR.

The components of this product are reported in the following inventories:			
EINECS	: All components listed or polymer exempt.		
TSCA	: All components listed.		
	. All some some liste d		
DSL	: All components listed.		

SECTION 16. OTHER INFORMATION

Full text of other abbreviations

AICS - Australian Inventory of Chemical Substances; 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; CPR - Controlled Products Regulations; 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-

Version	Revision Date:	SDS Number:	Print Date: 2016-05-24
1.3	2016-05-23	800001028992	Date of last issue: 13.04.2016
			Date of first issue: 27.09.2012

Accelerating Decomposition Temperature; SDS - Safety Data Sheet; TCSI - Taiwan Chemical Substance Inventory; TDG - Transportation of Dangerous Goods; 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

A vertical bar (|) in the left margin indicates an amendment from the previous version. Revision Date : 2016-05-23

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 given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release and is not to be considered a warranty or quality specification. The information relates only to the specific material designated and may not be valid for such material used in combination with any other materials or in any process, unless specified in the text.

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