SAFETY DATA SHEET

1. Identification				
Product identifier	PLEXUS® MA590 Adhesive			
Other means of identification				
SKU#	IT170			
Recommended use	Not available.			
Recommended restrictions	None known.			
Manufacturer/Importer/Supplier	Manufacturer/Importer/Supplier/Distributor information			
Company name	ITW Performance Polymers			
Address	35 Brownridge Rd			
	Unit 1			
	Halton Hills, ON L7G 0C6			
Contact person	Customer Service			
Telephone number	978-777-1100			
Fax				
E-mail				
Emergency telephone number	800-424-9300			
Supplier	Not available.			
2. Hazard identification				
Physical hazards	Flammable liquids	Category 2		
Health hazards	Acute toxicity, inhalation	Category 4		
	Skin corrosion/irritation	Category 2		
	Serious eye damage/eye irritation	Category 2A		
	Sensitization, skin	Category 1A		
	Specific target organ toxicity following single exposure	Category 3 respiratory tract irritation		
Environmental hazards	Not classified.			
Label elements				
Signal word	Danger			
Hazard statement	-	kin irritation. May aguse an allerais skin reaction		
Hazard statement	Highly flammable liquid and vapour. Causes skin irritation. May cause an allergic skin reaction. Causes serious eye irritation. Harmful if inhaled. May cause respiratory irritation.			
Precautionary statement				
Prevention	Keep away from heat, hot surfaces, sparks, open flames and other ignition sources. No smoking. Keep container tightly closed. Ground and bond container and receiving equipment. Use explosion-proof electrical/ventilating/lighting equipment. Use non-sparking tools. Take action to prevent static discharges. Wash thoroughly after handling. Use only outdoors or in a well-ventilated area. Contaminated work clothing should not be allowed out of the workplace. Wear protective gloves/protective clothing/eye protection/face protection.			

Response	IF ON SKIN (or hair): Take off immediately all contaminated clothing. Rinse skin with water. IF INHALED: Remove person to fresh air and keep comfortable for breathing. IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Call a POISON CENTRE/doctor if you feel unwell. If skin irritation or rash occurs: Get medical advice/attention. If eye irritation persists: Get medical advice/attention. Take off contaminated clothing and wash it before reuse. In case of fire: Use appropriate media to extinguish.
Storage	Keep cool. Store in a well-ventilated place. Keep container tightly closed. Store locked up.
Disposal	Dispose of contents/container in accordance with local/regional/national/international regulations.
Other hazards	None known.
Supplemental information	None.

3. Composition/information on ingredients

Mixtures

Chemical name	Common name and synonyms	CAS number	%
Methyl methacrylate		80-62-6	30 - 60
Lauryl methacrylate		142-90-5	7 - 13
POLY(OXY-1,2-ETHANEDIYL), .ALPHA(2- METHYL-1-OXO-2-PROPENYL)O MEGAMETHOXY-		26915-72-0	3 - 7
BUTYLATED HYDROXYTOLUENE (BHT)		128-37-0	1 - 5
Maleic acid		110-16-7	1 - 5
TETRADECYL METHACRYLATE		2549-53-3	0.5 - 1.5
Ethylene glycol		107-21-1	0.1 - 1
Other components below reportable	levels		30 - 60

All concentrations are in percent by weight unless ingredient is a gas. Gas concentrations are in percent by volume.

4. First-aid measures	
Inhalation	Remove victim to fresh air and keep at rest in a position comfortable for breathing. Oxygen or artificial respiration if needed. Call a poison centre or doctor/physician if you feel unwell.
Skin contact	Remove contaminated clothing immediately and wash skin with soap and water. In case of eczema or other skin disorders: Seek medical attention and take along these instructions. Wash contaminated clothing before reuse.
Eye contact	Immediately flush eyes with plenty of water for at least 15 minutes. Remove contact lenses, if present and easy to do. Continue rinsing. Get medical attention if irritation develops and persists.
Ingestion	Rinse mouth. Get medical attention if symptoms occur.
Most important symptoms/effects, acute and delayed	Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.
Indication of immediate medical attention and special treatment needed	Provide general supportive measures and treat symptomatically. Thermal burns: Flush with water immediately. While flushing, remove clothes which do not adhere to affected area. Call an ambulance. Continue flushing during transport to hospital. Keep victim warm. Keep victim under observation. Symptoms may be delayed.
General information	Take off all contaminated clothing immediately. If you feel unwell, seek medical advice (show the label where possible). Ensure that medical personnel are aware of the material(s) involved, and take precautions to protect themselves. Wash contaminated clothing before reuse.
5. Fire-fighting measures	
Suitable extinguishing media	Water fog. Foam. Carbon dioxide (CO2). Dry chemical powder, carbon dioxide, sand or earth may be used for small fires only.

Unsuitable extinguishing Do not use water jet as an extinguisher, as this will spread the fire.

media

the chemical	Vapours may form explosive mixtures with air. Vapours may travel considerable distance to a source of ignition and flash back. This product is a poor conductor of electricity and can become electrostatically charged. If sufficient charge is accumulated, ignition of flammable mixtures can occur. To reduce potential for static discharge, use proper bonding and grounding procedures. This liquid may accumulate static electricity when filling properly grounded containers. Static electricity accumulation may be significantly increased by the presence of small quantities of water or other contaminants. Material will float and may ignite on surface of water. During fire, gases hazardous to health may be formed.
Special protective equipment and precautions for firefighters	Self-contained breathing apparatus and full protective clothing must be worn in case of fire.
	In case of fire and/or explosion do not breathe fumes. Move containers from fire area if you can do so without risk.
Specific methods	Use standard firefighting procedures and consider the hazards of other involved materials.
General fire hazards	Highly flammable liquid and vapour.
6. Accidental release meas	ures
protective equipment and emergency procedures	Keep unnecessary personnel away. Keep people away from and upwind of spill/leak. Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Wear appropriate protective equipment and clothing during clean-up. Avoid breathing mist/vapours. Do not touch damaged containers or spilled material unless wearing appropriate protective clothing. Ventilate closed spaces before entering them. Use appropriate containment to avoid environmental contamination. Transfer by mechanical means such as vacuum truck to a salvage tank or other suitable container for recovery or safe disposal. Local authorities should be advised if significant spillages cannot be contained. For personal protection, see section 8 of the SDS.
containment and cleaning up	Eliminate all ignition sources (no smoking, flares, sparks, or flames in immediate area). Keep combustibles (wood, paper, oil etc) away from spilled material. Take precautionary measures against static discharge. Use only non-sparking tools.
	Large Spills: Stop the flow of material, if this is without risk. Dike the spilled material, where this is possible. Use a non-combustible material like vermiculite, sand or earth to soak up the product and place into a container for later disposal. Following product recovery, flush area with water.
	Small Spills: Absorb with earth, sand or other non-combustible material and transfer to containers for later disposal. Wipe up with absorbent material (e.g. cloth, fleece). Clean surface thoroughly to remove residual contamination.
Environmental precautions	Never return spills to original containers for re-use. For waste disposal, see section 13 of the SDS. Avoid discharge into drains, water courses or onto the ground. Use appropriate containment to avoid environmental contamination.
7. Handling and storage	
	Do not handle, store or open near an open flame, sources of heat or sources of ignition. Protect material from direct sunlight. When using do not smoke. Explosion-proof general and local exhaust ventilation. Minimize fire risks from flammable and combustible materials (including combustible dust and static accumulating liquids) or dangerous reactions with incompatible materials. Handling operations that can promote accumulation of static charges include but are not limited to: mixing, filtering, pumping at high flow rates, splash filling, creating mists or sprays, tank and container filling, tank cleaning, sampling, gauging, switch loading, vacuum truck operations. Take precautionary measures against static discharges. All equipment used when handling the product must be grounded. Use non-sparking tools and explosion-proof equipment. Avoid breathing mist/vapours. Avoid contact with eyes, skin, and clothing. Avoid prolonged exposure. Use only outdoors or in a well-ventilated area. Wear appropriate personal protective equipment. Observe good industrial hygiene practices.
	For additional information on equipment bonding and grounding, refer to the Canadian Electrical Code in Canada, (CSA C22.1), or the American Petroleum Institute (API) Recommended Practice 2003, "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" or National Fire Protection Association (NFPA) 77, "Recommended Practice on Static Electricity" or National Fire Protection Association (NFPA) 70, "National Electrical Code".
including any incompatibilities	Store locked up. Keep away from heat, sparks and open flame. Prevent electrostatic charge build-up by using common bonding and grounding techniques. Eliminate sources of ignition. Avoid spark promoters. Ground/bond container and equipment. These alone may be insufficient to remove static electricity. Store in a cool, dry place out of direct sunlight. Store in tightly closed container. Store in a well-ventilated place. Keep in an area equipped with sprinklers. Store away from incompatible materials (see Section 10 of the SDS).

8. Exposure controls/personal protection

Occupational exposure limits

US. ACGIH Threshold Limit Values

Components	Туре	Value	Form
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapor.
ETHYLENE GLYCOL (CAS 107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction
METHYL METHACRYLATE (CAS 80-62-6)	STEL	100 ppm	
	TWA	50 ppm	

Canada. Alberta OELs (Occupational Health & Safety Code, Schedule 1, Table 2)

Components	Туре	Value	
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)	TWA	10 mg/m3	
ETHYLENE GLYCOL (CAS 107-21-1)	Ceiling	100 mg/m3	
METHYL METHACRYLATE (CAS 80-62-6)	STEL	410 mg/m3	
		100 ppm	
	TWA	205 mg/m3	
		50 ppm	

Canada. British Columbia OELs. (Occupational Exposure Limits for Chemical Substances, Occupational Health and Safety Regulation 296/97, as amended)

Components	Туре	Value	Form
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)	TWA	2 mg/m3	Vapor and aerosol, inhalable.
ETHYLENE GLYCOL (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol
		50 ppm	Vapour.
	STEL	20 mg/m3	Particulate.
	TWA	10 mg/m3	Particulate.
METHYL METHACRYLATE (CAS 80-62-6)	STEL	100 ppm	
	TWA	50 ppm	

Canada. Manitoba OELs (Reg. 217/2006, The Workplace Safety And Health Act)

Components	Туре	Value	Form
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapor.
ETHYLENE GLYCOL (CAS 107-21-1)	STEL	10 mg/m3	Aerosol, inhalable.
		50 ppm	Vapor fraction
	TWA	25 ppm	Vapor fraction
METHYL METHACRYLATE (CAS 80-62-6)	STEL	100 ppm	
	TWA	50 ppm	

Components	ntrol of Exposure to Biological or Che Type	Value	Form
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)	TWA	2 mg/m3	Inhalable fraction and vapor.
ETHYLENE GLYCOL (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol
METHYL METHACRYLATE (CAS 80-62-6)	STEL	100 ppm	
	TWA	50 ppm	
Canada. Quebec OELs. (Mir Components	nistry of Labor - Regulation respecting Type) occupational health and sa Value	afety) Form
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)	TWA	10 mg/m3	
ETHYLENE GLYCOL (CAS 107-21-1)	Ceiling	127 mg/m3	Vapor and mist.
		50 ppm	Vapor and mist.
METHYL METHACRYLATE (CAS 80-62-6)	TWA	205 mg/m3	
		50 ppm	
Canada. Saskatchewan OEl Components	Ls (Occupational Health and Safety Re Type	egulations, 1996, Table 21) Value	Form
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)	15 minute	4 mg/m3	Inhalable fraction and vapor.
	8 hour	2 mg/m3	Inhalable fraction and vapor.
ETHYLENE GLYCOL (CAS 107-21-1)	Ceiling	100 mg/m3	Aerosol
METHYL METHACRYLATE (CAS 80-62-6)	15 minute	100 ppm	
	8 hour	50 ppm	
logical limit values	No biological exposure limits noted for	the ingredient(s).	
propriate engineering trols	Explosion-proof general and local exhat Ventilation rates should be matched to exhaust ventilation, or other engineerin exposure limits. If exposure limits have acceptable level. Provide eyewash sta	o conditions. If applicable, use ng controls to maintain airborr a not been established, mainta	e process enclosures, local ne levels below recommendec
•	such as personal protective equipme		
Eye/face protection	Chemical respirator with organic vapou	ur cartridge and full facepiece	
Skin protection Hand protection	Wear appropriate chemical resistant g	loves.	
Other	Wear appropriate chemical resistant c	lothing.	
Respiratory protection	Chemical respirator with organic vapor	ur cartridge and full facepiece	
Thermal hazards	Wear appropriate thermal protective cl	othing, when necessary.	
eral hygiene siderations	When using do not smoke. Always obs after handling the material and before clothing and protective equipment to re be allowed out of the workplace.	eating, drinking, and/or smok	ing. Routinely wash work
Physical and chemical	properties		
earance	Paste.		
Physical state	Liquid.		
	Deste		

Fo	rm	Paste.		
Co	lour	Off-white.		
Materia	l name: PLEXU	S® MA590 Adhesive		
IT170	Version #: 02	Revision date: 28-April-2020	Issue date: 19-June-2019	

Odour	Fragrant
Odour threshold	Not available.
рH	Not available.
Melting point/freezing point	-48 °C (-54.4 °F) estimated
Initial boiling point and boiling	100.5 °C (212.9 °F) estimated
range	
Flash point	10.0 °C (50.0 °F) estimated
Evaporation rate	Not available.
Flammability (solid, gas)	Not applicable.
Upper/lower flammability or exp	
Flammability limit - lower (%)	2.1 % estimated
Flammability limit - upper (%)	12.5 % estimated
Explosive limit - lower (%)	Not available.
Explosive limit – upper (%)	Not available.
Vapour pressure	28 mm Hg @ 20 °C
Vapour density	Not available.
Relative density	Not available.
Solubility(ies)	
Solubility (water)	Not available.
Partition coefficient (n-octanol/water)	Not available.
Auto-ignition temperature	Not available.
Decomposition temperature	Not available.
Viscosity	Not available.
Other information	
Density	0.97 g/cm3 estimated
Explosive properties	Not explosive.
Flammability class	Flammable IB estimated
Oxidising properties	Not oxidising.
Specific gravity	0.97 estimated
10. Stability and reactivity	1

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Reactivity	The product is stable and non-reactive under normal conditions of use, storage and transport.
Chemical stability	Material is stable under normal conditions.
Possibility of hazardous reactions	Hazardous polymerisation does not occur.
Conditions to avoid	Avoid heat, sparks, open flames and other ignition sources. Avoid temperatures exceeding the flash point. Contact with incompatible materials.
Incompatible materials	Strong oxidising agents. Nitrates. Peroxides.
Hazardous decomposition products	No hazardous decomposition products are known.

11. Toxicological information

Information on likely routes of exposure	
Inhalation	Harmful if inhaled.
Skin contact	Causes skin irritation. May cause an allergic skin reaction.
Eye contact	Causes serious eye irritation.
Ingestion	Knowledge about health hazard is incomplete.

Severe eye irritation. Symptoms may include stinging, tearing, redness, swelling, and blurred vision. May cause respiratory irritation. Skin irritation. May cause redness and pain. May cause an allergic skin reaction. Dermatitis. Rash.

Information on toxicological eff	ects	
Acute toxicity	Harmful if inhaled.	
Components	Species	Test Results
BUTYLATED HYDROXYTOLUEN	•	
Acute		
Oral		
LD50	Rat	890 mg/kg
Ethylene glycol (CAS 107-21-1)		
<u>Acute</u>		
Dermal		
LD50	Rabbit	9530 mg/kg
auryl methacrylate (CAS 142-90	-5)	
Acute		
Oral	Det	5 - 4
	Rat	> 5 g/kg
Maleic acid (CAS 110-16-7)		
<u>Acute</u>		
Dermal LD50	Rabbit	1560 mg/kg
Oral	Tabbit	roco mg/ng
LD50	Rat	708 mg/kg
Methyl methacrylate (CAS 80-62-		,
Acute	0)	
Inhalation		
LC50	Mouse	18.5 mg/l, 2 Hours
Oral		
LD50	Rat	7800 mg/kg
Skin corrosion/irritation	Causes skin irritation.	
Serious eye damage/eye	Causes serious eye irritation.	
rritation	,,,,,	
Respiratory or skin sensitisatio	n	
ACGIH sensitisation		
Methyl methacrylate (CA Canada - Alberta OELs: Irri		Dermal sensitization
BUTYLATED HYDROXY (CAS 128-37-0)		Irritant
Ethylene glycol (CAS 10 Canada - British Columbia	7-21-1) OELs: Respiratory or skin sen	Irritant sitiser
Methyl methacrylate (CA	· ·	Capable of causing respiratory, dermal or conjunctiva sensitization.
Canada - Manitoba OELs H	azard: Dermal sensitization	
Methyl methacrylate (CA Canada - Quebec OELs: Se	,	Dermal sensitization
Methyl methacrylate (CA Canada - Saskatchewan Ol	S 80-62-6) ELs Hazard Data: Sensitiser	Sensitiser.
Methyl methacrylate (CA	S 80-62-6)	Sensitiser.
Respiratory sensitisation		k of data the classification is not possible.
Skin sensitisation	May cause an allergic skin rea	
Germ cell mutagenicity		k of data the classification is not possible.
Carcinogenicity	Due to partial or complete lac	k of data the classification is not possible.

ACGIH Carcinogens		
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)		A4 Not classifiable as a human carcinogen.
Ethylene glycol (CAS 107-21-1)		A4 Not classifiable as a human carcinogen.
Methyl methacrylate (CAS 80-62-6)		A4 Not classifiable as a human carcinogen.
Canada - Manitoba OELs: carcinogenicity		
BUTYLATED HYDROXY (CAS 128-37-0)	TOLUENE (BHT)	Not classifiable as a human carcinogen.
Ethylene glycol (CAS 107-21-1)		Not classifiable as a human carcinogen.
Methyl methacrylate (CAS 80-62-6)		Not classifiable as a human carcinogen.
IARC Monographs. Overall I	Evaluation of Carcinogenicit	у
BUTYLATED HYDROXYTOLUENE (BHT) (CAS 128-37-0)		3 Not classifiable as to carcinogenicity to humans.
Methyl methacrylate (CAS 80-62-6)		3 Not classifiable as to carcinogenicity to humans.
Reproductive toxicity	Due to partial or complete la	ick of data the classification is not possible.
Specific target organ toxicity - single exposure	May cause respiratory irritat	ion.
Specific target organ toxicity - repeated exposure	Due to partial or complete la	tck of data the classification is not possible.
Aspiration hazard	Due to partial or complete la	ck of data the classification is not possible.
Chronic effects	Prolonged inhalation may be	e harmful.
12 Ecological information	•	

12. Ecological information Ecotoxicity

EcotoxicityThe product is not classified as environmentally hazardous. However, this does not exclude the
possibility that large or frequent spills can have a harmful or damaging effect on the environment.Persistence and degradabilityNo data is available on the degradability of any ingredients in the mixture.

Bioaccumulative potential

Partition coefficient n-o	ctanol / water (log Kow)
Ethylene glycol	-1.36
Maleic acid	-0.48
Methyl methacrylate	1.38
Mobility in soil	No data available.
Other adverse effects	No other adverse environmental effects (e.g. ozone depletion, photochemical ozone creation potential, endocrine disruption, global warming potential) are expected from this component.

13. Disposal considerations	
Disposal instructions	Collect and reclaim or dispose in sealed containers at licensed waste disposal site. Dispose of contents/container in accordance with local/regional/national/international regulations.
Local disposal regulations	Dispose in accordance with all applicable regulations.
Hazardous waste code	The waste code should be assigned in discussion between the user, the producer and the waste disposal company.
Waste from residues / unused products	Dispose of in accordance with local regulations. Empty containers or liners may retain some product residues. This material and its container must be disposed of in a safe manner (see: Disposal instructions).
Contaminated packaging	Since emptied containers may retain product residue, follow label warnings even after container is emptied. Empty containers should be taken to an approved waste handling site for recycling or disposal.

14. Transport information

TDG	
UN number	UN1133
UN proper shipping name	ADHESIVES containing flammable liquid
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	Not available.
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.

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IAIA	
UN number	UN1133
UN proper shipping name	Adhesives containing flammable liquid
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	No.
ERG Code	3L
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Other information	
Passenger and cargo	Allowed with restrictions.
aircraft	
Cargo aircraft only	Allowed with restrictions.
IMDG	
UN number	UN1133
UN proper shipping name	ADHESIVES containing flammable liquid
Transport hazard class(es)	
Class	3
Subsidiary risk	-
Packing group	III
Environmental hazards	
Marine pollutant	No.
EmS	F-E, S-D
Special precautions for user	Read safety instructions, SDS and emergency procedures before handling.
Transport in bulk according to	Not established.
Annex II of MARPOL 73/78 and	
the IBC Code	

IATA; IMDG; TDG



15. Regulatory information

Canadian regulations

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

Controlled Drugs and Substances Act

Not regulated.

Export Control List (CEPA 1999, Schedule 3) Not listed. Greenhouse Gases Not listed. Precursor Control Regulations Not regulated. International regulations

Stockholm Convention

Not applicable.

Rotterdam Convention

Not applicable.

Kyoto Protocol

Not applicable.

Montreal Protocol Not applicable. **Basel Convention** Not applicable. International Inventories Country(s) or region Inventory name On inventory (yes/no)* Australia Australian Inventory of Chemical Substances (AICS) Yes Canada Domestic Substances List (DSL) No Canada Non-Domestic Substances List (NDSL) No China Inventory of Existing Chemical Substances in China (IECSC) Yes Europe European Inventory of Existing Commercial Chemical No Substances (EINECS) European List of Notified Chemical Substances (ELINCS) Europe No Japan Inventory of Existing and New Chemical Substances (ENCS) No Existing Chemicals List (ECL) Korea No New Zealand New Zealand Inventory Yes Philippines Philippine Inventory of Chemicals and Chemical Substances Yes (PICCS) Taiwan Taiwan Chemical Substance Inventory (TCSI) Yes United States & Puerto Rico Toxic Substances Control Act (TSCA) Inventory Yes

*A "Yes" indicates that all components of this product comply with the inventory requirements administered by the governing country(s) A "No" indicates that one or more components of the product are not listed or exempt from listing on the inventory administered by the governing country(s).

16. Other information

Issue date	19-June-2019
Revision date	28-April-2020
Version No.	02
Disclaimer	ITW Performance Polymers cannot anticipate all conditions under which this information and its product, or the products of other manufacturers in combination with its product, may be used. It is the user's responsibility to ensure safe conditions for handling, storage and disposal of the product, and to assume liability for loss, injury, damage or expense due to improper use. 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 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. The information given is designed only as a guidance for safe handling, use, processing, storage, transportation, disposal and release.
Revision information	Composition / Information on Ingredients: Component Summary