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=========== SECTION I - IDENTIFICATION OF MATERIAL AND SUPPLIER =====

PRODUCT NAME: T-198 REFLOW THINNER

PRODUCT CODE: T-198

MANUFACTURER'S NAME: R. J. McGLENNON CO. INC.

ADDRESS : 198 UTAH ST.

SAN FRANCISCO, CA 94103

EMERGENCY PHONE : (800) 424-9300 INFORMATION PHONE : (415) 552-0311

DATE PRINTED : 03/07/16

#### OSHA REGULATORY STATUS

THIS CHEMICAL IS CONSIDERED HAZARDOUS BY THE 2012 OSHA HAZARD COMMUNICATION STANDARD (29 CFR 1910.1200)

ACUTE TOXICITY - ORAL CATEGORY 4 H302 ACUTE TOXICITY - DERMAL CATEGORY 4 H312 ACUTE TOXICITY - INHALATION (VAPORS) CATEGORY 4 H332 SKIN CORROSION/IRRITATION CATEGORY 2 H315 SERIOUS EYE DAMAGE/EYE IRRITATION CATEGORY 2B H320 CARCINOGENICITY CATEGORY 2 H351 REPRODUCTIVE TOXICITY CATEGORY 2 H361 SPECIFIC TARGET ORGAN TOXICITY (REPEATED EXPOSURE) CATEGORY 2 H373 CHRONIC AQUATIC TOXICITY CATEGORY 3 H412 FLAMMABLE LIQUIDS CATEGORY 2 H225 FLAMMABLE LIQUIDS CATEGORY 3 H226 SLOT, SINGLE EXPOSURE CATEGORY 3 H335 EYE IRRITATION CATEGORY 2 H319

### LABEL ELEMENTS

- HEALTH HAZARD
- FLAME
- EXCLAMATION MARK

EMERGENCY OVERVIEW STATEMENTS

HAZARD STATEMENTS

HARMFUL IF SWALLOWED

HARMFUL IF INHALED

CAUSES SKIN IRRITATION

CAUSES EYE IRRITATION

SUSPECTED OF CAUSING CANCER

SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD

MAY CAUSE DAMAGE TO THE CENTRAL NERVOUS SYSTEM THROUGH PROLONGED OR REPEATED EXPOSURE

HARMFUL TO AQUATIC LIFE WITH LONG LASTING EFFECTS

FLAMMABLE LIQUID AND VAPOR

PRECAUTIONARY STATEMENTS - PREVENTION

OBTAIN SPECIAL INSTRUCTIONS BEFORE USE

DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD

USE PERSONAL PROTECTIVE EQUIPMENT AS REQUIRED

USE ONLY OUTDOORS OR IN A WELL-VENTILATED AREA

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WASH FACE, HANDS AND ANY EXPOSED SKIN THOROUGHLY AFTER HANDLING

DO NOT BREATHE MIST, VAPORS, SPRAY

KEEP AWAY FROM HEAT/SPARKS/OPEN FLAMES/HOT SURFACES. - NO SMOKING

KEEP CONTAINER TIGHTLY CLOSED

GROUND/BOND CONTAINER AND RECEIVING EQUIPMENT

USE EXPLOSION-PROOF ELECTRICAL/VENTILATING/LIGHITNG EQUIPMENT

USE ONLY NON-SPARKING TOOLS

TAKE PRECAUTIONARY MEASURES AGAINST STATIC DISCHARGE

AVOID RELEASE TO THE ENVIRONMENT

PRECAUTIONARY STATEMENTS - RESPONSE

IF EXPOSED OR CONCERNED: GET MEDICAL ADVICE/ATTENTION

IF IN EYES: REINSE CAUTIONASLY WITH WATER FOR SEVERAL MINUTES. REMOVED CONTACT LENSES, IF PRESENTS AND EASY TO DO.

CONTINUE RINSING IF EYE IRRITATION PERSISTS: GET MEDICAL ADVICE/ATTENTION

CALL A POISON CENTER OR DOCTOR/PHYSICIAN IF YOU FEEL UNWELL

IF SIN IRRITATION OCCURS: GET MEDICAL ADVICE/ATTENTION

IF ON SKIN (OR HAIR): REMOVE/TAKE OFF IMMEDIATELY ALL CONTAMINATED CLOTHING. RINSE SKIN WITH WATER/SHOWER

WASH CONTAMINATED CLOTHING BEFORE REUSE

IF INHALED: REMOVE VICTIM TO FRESH AIR AND KEEP AT REST IN A POSITION COMFORTABLE FOR BREATHING

IN CASE OF FIRE: USE CO2, DRY CHEMICAL, OR FOAM TO EXTINGUISH

PRECAUTIONARY STATEMENTS - STORAGE

STORE IN A WELL-VENTILATED PLACE. KEEP COOL

PRECAUTIONARY STATEMENTS - DISPOSAL

DISPOSE OF CONTENTS/CONTAINER TO INDUSTRIAL INCINERATION PLANT

DISPOSE OF IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL REGULATIONS

HAZARDS NOT OTHERWISE CLASSIFIED OTHER INFORMATION

REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS AND CRACKING

HAZARDS NOT OTHERWISE CLASSIFIED (HNOC) OTHER INFORMATION

REPEATED EXPOSURE MAY CAUSE SKIN DRYNESS AND CRACKING

ACUTE TOXICITY - ORAL

ACUTE TOXICITY - INHALATION (VAPORS)

MAY BE HARMFUL IF INCONTACT WITH SKIN

CATEGORY 4 H332

CATEGORY 5 H313

LABEL ELEMENTS

- WARNING!

EMERGENCY OVERVIEW STATEMENTS

HAZARD STATEMENTS

HARMFUL IF SWALLOWED

HARMFUL IF INHALED

MAY BE HARMFUL IF INCONTACT WITH SKIN

SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD

PRECAUTIONARY STATEMENTS - PREVENTION

OBTAIN SPECIAL INSTRUCTIONS BEFORE USE

WEAR PORTECTIVE GLOVES/PROTECTIVE CLOTHING/EYE PROTECTION/FACE PROTECTION

## SAFETY DATA SHEET

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DO NOT HANDLE UNTIL ALL SAFETY PRECAUTIONS HAVE BEEN READ AND UNDERSTOOD

KEEP AWAY FROM FOOD AND DRINK

P264 WASH HANDS THOROUGHLY AFTER HANDLING

P270 DO NOT EAT, DRINK OR SMOKE WHEN USING THIS PRODUCT

P261 AVOID BREATHING DUST/FUME/GAS MIST/VAPORS/SPRAY

P271 USE ONLY OUTDOORS OR IN WELL VENTILATED AREA

PRECAUTIONARY STATEMENTS - RESPONSE

P301 P312 IF SWALLOWED: CALL A POISON CONTROL CENTER OR DOCTOR

P330 RINSE MOUTH

P331 DO NOT INDUCE VOMITING

P304 P340 P312 IF INHALED: REMOVE PERSON TO FRESH AIR AND KEEP COMFORTABLE FOR BREATHING. CALL POISON CONTROL CENTER OR MEDICAL DOCTOR IF INDIVIDUAL CONTINUES TO FEEL UNWELL

P302 P352 P312 MAY BE HARMFUL IF ONCTACT WITH SKIN: WASH AFFECTED AREAS WITH LARGE AMOUNT OF FRESH WATER. CALL POISON CONTROL CENTER OR DOCTOR IF INDIVIDUAL CONTINUEW TO FEEL UNWELL.

PRECAUTIONARY STATEMENTS - STORAGE

STORE LOCKED UP.

PRECAUTIONARY STATEMENTS - DISPOSAL

DISPOSE OF CONTENTS/CONTAINER IN ACCORDANCE WITH FEDERAL, STATE AND LOCAL AND NATIONAL REGULATIONS.

HAZARDS NOT OTHERWISE CLASSIFIED OTHER INFORMATION

NOT APPLICABLE

## ========== SECTION III - COMPOSITION/INFORMATION ON INGREDIENTS ====

		WEIGHT
REPORTABLE COMPONENTS	CAS NUMBER	PERCENT
METHYL AMYL KETONE	110-43-0	33.5
* # GLYCOL ETHER EB	111-76-2	26.45
NORMAL BUTYL ACETATE	123-86-4	15.5
ISOBUTYL ISOBUTYRATE	97-85-8	14.0
METHYL ETHYL KETONE	78-93-3	10.5

\* Indicates this product contains EPCRA section 313 chemical(s) subject to the reporting requirements of the Emergency Planning and Community Right-To-Know Act of 1986 (40 CFR 372).

This information must be included in all MSDS's that are copied and distributed for this material. \*# Note for Glycol Ether EB - this solvent is no longer on the 40CFR63.112 HAPS list but it is EPCRA section 313 reportable

WARNING: This product contains flammable solvent(s).

IF ON SKIN: FLUSH EXPOSED AREA WITH LARGE AMOUNTS OF WATER. IF ANY IRRITATION DEVELOPS SEEK MEDICAL ATTENTION. REMOVE CONTAMINATED CLOTHING. LAUNDER CLOTHING BEFORE REUSE.

IF IN EYES: FLUSH WITH WATER WHILE HOLDING EYELIDS OPEN. IF IRRITATION PERSISTS, SEEK MEDICAL ATTENTION.

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FOR INHALATION, REMOVE TO FRESH AIR, AND IF NAUSEA OR DIZZINESS DEVELOPS, SEEK MEDICAL ATTENTION.

IF SWALLOWED DO NOT INDUCE VOMITTING (MATERIAL COMPONENTS PRESENT AN ASPIRATION HAZARD) PLACE PERSON ON LEFT SIDE AND SEEK MEDICAL ATTENTION.

FLASH POINT: 23 Deg F METHOD USED: TCC

FLAMMABLE LIMITS IN AIR BY % OF VOLUME- LOWER: 1.0% UPPER: 12.7%

EXTINGUISHING MEDIA: FOAM, ALCOHOL FOAM, CO2, DRY CHEMICAL

# SPECIAL FIREFIGHTING PROCEDURES

WATER SPRAY MAY BE INEFFECTIVE, BUT MAY BE USED TO COOL CONTAINERS EXPOSED TO EXTREME HEAT. WEAR SELF-CONTAINED BREATHING APPARATUS WITH A FULL FACEPIECE OPERATED IN THE POSITIVE PRESSURE DEMAND MODE.

#### UNUSUAL FIRE AND EXPLOSION HAZARDS

NEVER USE WELDING OR CUTTING TORCH ON OR NEAR DRUM (EVEN EMPTY) BECAUSE PRODUCT (EVEN JUST RESIDUE) CAN EXPLODE. DURING TRANSFER OPERATIONS, ALL FIVE GALLON PAILS AND LARGER METAL CONTAINERS (TANK CARS AND TANK TRUCKS) SHOULD BE GROUNDED TO DISSSIPATE STATIC CHARGES. VAPORS ARE HEAVIER THAN AIR, AND CAN TRAVEL ALONG THE GROUND TO IGNITION SOURCES.

======== SECTION VI - ACCIDENTAL RELEASE MEASURE ============

# STEPS TO BE TAKEN IN CASE MATERIAL IS RELEASED OR SPILLED

SMALL SPILL: ABSORB LIQUID ON VERMICULITE, FLOOR ABSORBENT OR OTHER ABSORBENT MATERIAL.

LARGE SPILL: ELIMINATE ALL IGNITION SOURCES (FLARES, FLAMES, INCLUDING PILOT LIGHTS, ELECTRICAL SPARKS), PREVENT SPREAD OF MATERIAL.

# PRECAUTIONS TO BE TAKEN IN HANDLING AND STORING

DO NOT STORE ABOVE 120 DEG.F. DO NOT STORE OR USE NEAR HEAT, SPARKS, OPEN FLAMES, OR ANY SOURCE OF IGNITION.

CONTAINERS OF THIS MATERIAL MAY BE HAZARDOUS EVEN WHEN EMPTIED-SINCE EMPTIED CONTAINERS RETAIN PRODUCT RESIDUES (VAPORS, LIQUID, AND/OR SOLID). ALL HAZARD PRECAUTIONS GIVEN IN THIS DATA SHEET MUST BE OBSERVED.

#### OTHER PRECAUTIONS

AVOID SKIN CONTACT. DO NOT GET IN EYES. DO NOT TAKE INTERNALLY. USE ONLY WITH ADEQUATE VENTILATION. DO NOT USE NEAR ANY SOURCES OF IGNITION. DO NOT WELD OR FLAME CUT EMPTY DRUMS. AVOID SKIN CONTACT. DO NOT GET IN EYES. DO NOT TAKE INTERNALLY. USE ONLY WITH ADEQUATE VENTILATION. SEE RESPIRATORY PROTECTION SECTION FOR RECOMMENDATIONS. DO NOT USE NEAR ANY SOURCES OF IGNITION. DO NOT WELD OR FLAME CUT EMPTY DRUMS. THIS PRODUCT IS INTENDED FOR PROFESSIONAL USE ONLY BY TRAINED PERSONNEL.

======== SECTION VIII - EXPOSURE CONTROLS/PERSONAL PROTECTION====

#### EXPOSURE LIMITS ON

REPORTABLE COMPONENTS CAS NUMBER

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110-43-0

METHYL AMYL KETONE
OSHA PEL EXPOSURE LIMIT: 100 ppm - TWA

ACGIH TLV EXPOSURE LIMIT: 50 ppm - TWA

OTHER EXPOSURE LIMIT: N/A

\* # GLYCOL ETHER EB 111-76-2

OSHA PEL EXPOSURE LIMIT: 25 ppm TWA
ACGIH TLV EXPOSURE LIMIT: 25 ppm skin
OSHA TWA EXPOSURE LIMIT: 240 mg/cu.m.

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123-86-4 NORMAL BUTYL ACETATE OSHA PEL EXPOSURE LIMIT: 150 ppm ACGIH TLV EXPOSURE LIMIT: 150 ppm EXPOSURE LIMIT: N/A 97-85-8 ISOBUTYL ISOBUTYRATE OSHA PEL EXPOSURE LIMIT: 100 ppm ACGIH TLV EXPOSURE LIMIT: 100 ppm EXPOSURE LIMIT: N/A OTHER METHYL ETHYL KETONE 78-93-3 OSHA PEL EXPOSURE LIMIT: 200 ppm - TWA ACGIH TLV EXPOSURE LIMIT: 200 ppm - TWA OTHER EXPOSURE LIMIT: N/A

## RESPIRATORY PROTECTION

IF WORKPLACE EXPOSURE LIMITS(S) OF PRODUCT OR ANY COMPONENT IS EXCEEDED (SEE SECTION II), A NIOSH/MSHA APPROVED AIR SUPPLIED RESPIRATOR IS ADVISED. OSHA REGULATIONS ALSO PERMIT OTHER NIOSH/MSHA RESPIRATORS (CHEMICAL TYPE WITH ORGANIC VAPOR CARTRIDGE) - CONSULT YOUR INDUSTRIAL HYGIENIST.

#### VENTITATION

PROVIDE SUFFICIENT MECHANICAL (GENERAL AND/OR LOCAL EXHAUST) VENTILATION TO MAINTAIN ALL SECTION III COMPONENTS BELOW THEIR EXPOSURE LIMITS.

### PROTECTIVE GLOVES

WEAR RESISTANT GLOVES (CONSULT YOUR SAFETY EQUIPMENT SUPPLIER).

### EYE PROTECTION

CHEMICAL SPLASH GOGGLES IN COMPLIANCE WITH OSHA REGULATIONS.

# OTHER PROTECTIVE CLOTHING OR EQUIPMENT

EYE BATH AND SAFETY SHOWER. TO PREVENT REPEATED OR PROLONGED SKIN CONTACT, WEAR IMPERVIOUS CLOTHING, GLOVES, AND BOOTS.

#### WORK/HYGIENIC PRACTICES

WASH HANDS PRIOR TO EATING. DO NOT SMOKE NEAR THIS PRODUCT.

======== SECTION IX - PHYSICAL AND CHEMICAL PROPERTIES =======

BOILING RANGE: 175 Deg F - 336 Deg F SPECIFIC GRAVITY (H2O=1): .85

VAPOR DENSITY: HEAVIER THAN AIR EVAPORATION RATE: SLOWER THAN ETHER

SOLUBILITY IN WATER: NEGLIGIBLE

APPEARANCE AND ODOR: CLEAR LIQUID WITH ORGANIC SOLVENTS ODOR.

		VAPOR PRESSURE
REPORTABLE COMPONENTS	CAS NUMBER	MM HG @ TEMP
METHYL AMYL KETONE	110-43-0	2.14 68 Deg F
* # GLYCOL ETHER EB	111-76-2	0.40 20 Deg C
NORMAL BUTYL ACETATE	123-86-4	10.0 68 Deg F
ISOBUTYL ISOBUTYRATE	97-85-8	32 68 Deg F
METHYL ETHYL KETONE	78-93-3	78 68 Deg F

# STABILITY

STABLE UNDER NORMAL CONDITIONS

## CONDITIONS TO AVOID

ALL SOURCES OF IGNITION: HEAT, SPARKS, STATIC ELECTRICITY, OPEN FLAMES

#### INCOMPATIBILITY (MATERIALS TO AVOID)

AVOID CONTACT WITH: STRONG OXIDIZING AGENTS

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#### HAZARDOUS DECOMPOSITION OR BYPRODUCTS

CARBON DIOXIDE, CARBON MONOXIDE, HYDROCARBON COMPOUNDS

### HAZARDOUS POLYMERIZATION

WILL NOT OCCUR

========= SECTION XI - TOXICOLOGICAL INFORMATION ===============

### INHALATION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

INHALATION: EXCESSIVE INHALATION OF VAPORS CAN CAUSE NASAL AND RESPIRATORY IRRITATION. OTHER INHALATION SYMPTONS CAN INCLUDE NAUSEA, DIZZINESS, HEADACHE.

#### SKIN AND EYE CONTACT HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SKIN: EXPOSURE CAUSES SKIN IRRITATION. PROLONGED OR REPEATED EXPOSURE MAY DRY SKIN. SYMPTOMS MAY INCLUDE REDNESS, BURNING, DRYING, AND CRACKING. EYES: PRIMARY IRRITATION. SYMPTOMS INCLUDE STINGING, TEARING, REDNESS.

### SKIN ABSORPTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SKIN ABSORPTION IS POSSIBLE, AND MAY BE HARMFUL. BUT HARMFUL EFFECTS ARE NOT EXPECTED FROM INCIDENTAL CONTACT THROUGH NORMAL USE.

#### INGESTION HEALTH RISKS AND SYMPTOMS OF EXPOSURE

SWALLOWING IS HARMFUL. SYMPTOMS INCLUDE GASTROINTESTINAL IRRITATION (NAUSEA, VOMITING, DIARRHEA).

#### HEALTH HAZARDS (ACUTE AND CHRONIC)

NONE KNOWN ON PRODUCT AS SUPPLIED

HOWEVER, OVER EXPOSURE TO SECTION II COMPONENTS CAN CAUSE DIZZINESS, NAUSEA OR HEADACHE. EXCESSIVE SKIN CONTACT CAN CAUSE DERMATITUS. EYE CONTACT CAN CAUSE IRRITATION.

CARCINOGENICITY: NTP CARCINOGEN: NO IARC MONOGRAPHS: NO OSHA REGULATED: NO THIS MATERIAL IS NOT EXPECTED TO BE CARCINOGENIC IN HUMANS BASED ON NEGATIVE EVIDENCE OF CARCINOGENICITY IN LABORATORY ANIMALS. THIS MATERIAL IS NOT LISTED AS A CARCINOGEN BY IARC, NTP OR OSHA. SEE OTHER WARNINGS IN SECTION II. SUSPECTED OF CAUSING CANCER. SUSPECTED OF DAMAGING FERTILITY OR THE UNBORN CHILD.

# MEDICAL CONDITIONS GENERALLY AGGRAVATED BY EXPOSURE

OVER EXPOSURE TO SECTION II COMPONENTS CAN AGGRAVATE PRE-EXISTING DISORDERS OF KIDNEYS, LIVER AND RESPIRATORY SYSTEM.

======== SECTION XII - ECOLOGICAL INFORMATION ==============

ECOLOGICAL INFORMATION: NO RELEVANT DATA FOUND

MOBILITY IN SOIL: NO RELEVANT DATA FOUND

OTHER ADVERSE EFFECTS: NO RELEVANT DATA FOUND

========= SECTION XIII - DISPOSAL CONSIDERATION ==============

# WASTE DISPOSAL METHOD

HAZARDOUS WASTE REGULATIONS ARE NOT CONSISTENT THROUGHOUT THE COUNTRY (SOME WASTES ARE NOT HAZARDOUS WASTE UNDER FEDERAL RULES, BUT THE SAME WASTE MAY BE DEFINED AS HAZARDOUS WASTE UNDER STATE RULES).

ANY SPILLS SHOULD BE SOAKED UP WITH INERT ABSORBANT AND COLLECTED IN CONTAINERS. PAINT BOOTH FILTERS MAY BE CONSIDERED HAZARDOUS.

CONTACT YOUR LOCAL HAZARDOUS WASTE AGENCY (WITH INFORMATION FROM THIS MSDS) FOR PROPER DISPOSAL INSTRUCTIONS.

======== SECTION XIV - TRANSPORT INFORMATION ==============

DOT / TDG / MEX

HAZARD CLASS

UN-NO

UN1263

PROPER SHIPPING NAME

PAINT RELATED MATERIAL (THINNERS)

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PACKING GROUP II NAERG: 127

IATA / IMDG / IMO

UN-NO UN1263/UN1090

PROPER SHIPPING NAME PAINT RELATED MATERIAL (THINNERS)

HAZARD CLASS 3

PACKING GROUP PGII

PACKING INSTRUCTIONS 355;366

NAERG: 127

EMS-NO F-E, S-E

# SARA 313 REPORTABLE COMPONENTS CAN BE FOUND IN SECTION III COMPOSITION

### SARA 313 HAZARDOUS CATEGORIZATION

ACUTE HEALTH HAZRD YES
CHRONIC HEALTH HAZARD YES
FIRE HAZARD YES
SUDDEN RELEASE OF PRESSURE HAZRD NO
REACTIVE HAZRD NO

### STATE REGULATIONS: CALIFORNIA PROPOSITION 65

WARNING: THIS MATERIAL CONTAINS A CHEMICAL KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER AND BIRTH DEFECTS OR OTHER REPRODUCTIVE HARM. THE CALIFORNIA SAFE DRINKING WATER AND TOXIC ENFORCEMENT ACT OF 1986 REQUIRES THAT CLEAR AND REASONABLE WARNING BE GIVEN PRIOR TO EXPOSING ANY PERSON TO THIS CHEMICAL

THE INFORMATION IN THIS MSDS AND ENVIRONMENTAL DATA SHEET WAS OBTAINED FROM SOURCES WHICH WE BELIEVE ARE RELIABLE. HOWEVER, THE INFORMATION IS PROVIDED WITHOUT ANY REPRESENTATION OR WARRANTY, EXPRESSED OR IMPLIED, REGARDING ITS ACCURACY OR COMPLETENESS. RECIPIENTS ARE ADVISED TO CONFIRM THE CURRENT ACCURACY IN ADVANCE OF NEEDS.