

OPTIMISTIC ORGANIC SDN BHD

Lot No. 3351, Teluk Kalong Industrial Estate
24007, Kemaman, Terengganu, Malaysia.

Tel : + 609-8633029 / 8633031 / 8632343
Fax : + 609-8633085
Website: www.oosb.com.my

Chemical Safety Data Sheet

Revision Date: 17.02.15 Revision No:04

SECTION 1: IDENTIFICATION OF SUBSTANCE / MIXTURE AND OF THE SUPPLIER

1.1 PRODUCT IDENTIFIER:

Product Name : MALEIC ANHYDRIDE (MOLTEN)
REACH Registration Number : 01-2119472428-31-0008
CAS-No. : 108-31-6
EU Index No. : 607-096-00-9
EC No. : 203-571-6

1.2 RELEVANT IDENTIFIED USES OF THE SUBSTANCE OR MIXTURE AND USES ADVISED AGAINST:

Chemical

1.3 DETAILS OF THE SUPPLIER OF THE SAFETY DATA SHEET:

SUPPLIER / MANUFACTURER:

Optimistic Organic Sdn Bhd
Lot No. 3351, Teluk Kalong Industrial Estate
24007, Kemaman, Terengganu State
Malaysia.
Phone : + 609-8633029 / 8633031 / 8632343 / 8633317
Fax : + 609-8633085
E-Mail : oosb@oosb.com.my
Website : www.oosb.com.my

1.4 EMERGENCY TELEPHONE NUMBERS:

Phone : + 609-8634272
Hand Phone : +60-199887623

SECTION 2: HAZARDS IDENTIFICATION

2.1 CLASSIFICATION OF THE SUBSTANCE OR MIXTURE:

Classification according to Regulation EC 1272/2008:

Physical-Chemical Hazards : Not Classified
Health Hazards :
1. Acute Toxicity Oral (H302) : Category 4
2. Skin Corrosion / Irritation (H314) : Category - Corrosive 1B
3. Respiration Sensitization (H334) : Category 1
4. Skin Sensitization (H317) : Category 1
Environment Hazards : Not classified

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Classification according to Directive 67/548/EEC
Xn;R22. C;R34. R42/43.

The Full Text for all R-Phrases and Hazard Statements are Displayed in Section 16.

2.2 LABELLING ELEMENTS ACCORDING TO REGULATION EC No. 1272/2008:

EC No. : 203-571-6

Hazard Pictogram :



Signal Word : DANGER

HAZARD STATEMENTS:

H302 : Harmful if swallowed.
H314 : Causes severe skin burns and eye damage.
H334 : May cause allergy or asthma symptoms or breathing difficulties if inhaled.
H317 : May cause an allergic skin reaction

PRECAUTIONARY STATEMENTS:

P260 : Do not breathe dust/fume/gas/mist/vapours/spray.
P280 : Wear protective gloves/protective clothing/eye protection/face protection.
P305+351+338 : IF IN EYES:
Rinse cautiously with water for several minutes.
Remove contact lenses, if present and easy to do continue rinsing.
P310 : Immediately call a POISON CENTER or doctor/physician.
P342+311 : If experiencing respiratory symptoms: Call a POISON CENTER or Doctor/Physician

SUPPLEMENTARY PRECAUTIONARY STATEMENTS:

P261 : Avoid breathing dust/fume/gas/mist/vapours/spray.
P264 : Wash thoroughly after handling.
P270 : Do not eat, drink or smoke when using this product.
P272 : Contaminated work clothing should not be allowed out of the workplace.
P285 : In case of inadequate ventilation wear respiratory protection.
P301+ P312 : IF SWALLOWED: Call a POISON CENTER or Doctor / Physician if you feel unwell.
P301+P330+P331 : IF SWALLOWED: Rinse mouth. Do NOT induce vomiting.
P302 + P352 : IF ON SKIN: Wash with plenty of soap and water.
P303+P361+P353 : IF ON SKIN or HAIR:
Remove/Take off immediately all contaminated clothing. Rinse skin with water / shower.
P304 + P340 : IF INHALED: Remove victim to fresh air and keep at rest in a position comfortable for breathing.

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P304 + P341	: IF INHALED: If breathing is difficult, remove victim to fresh air and keep at rest in a position comfortable for breathing.
P330	: Rinse Mouth.
P333 + P313	: If skin irritation or rash occurs; Get medical advice / attention.
P363	: Wash contaminated clothing before re-use.
P405	: Store locked up.
P402+P404	: Store in a dry place. Store in a closed container.
P501	: Dispose of contents / container in accordance with local legislation.

2.3 OTHER HAZARDS:

This product does not contain any PBT or vPvB Substances.

SECTION 3: COMPOSITION / INFORMATION ON INGREDIENTS

3.1 SUBSTANCES:

Product Name	: MALEIC ANHYDRIDE (MOLTEN)
Chemical Formula	: C ₄ H ₂ O ₃
Synonym	: 2, 5-Furandione, Cis-Butenedioic Anhydride
REACH Registration Number	: 01-2119472428-31-0008
CAS No.	: 108-31-6
EU Index No.	: 607-096-00-9
EC No..	: 203-571-6

SECTION 4: FIRST AID MEASURES

4.1 DESCRIPTION OF FIRST AID MEASURES:

GENERAL INFORMATION:

In case of accident or if you feel unwell, seek medical advice immediately (show label where possible).
Immediately remove contaminated clothing.

INHALATION:

Move the exposed person to fresh air at once.
When breathing is difficult, properly trained personnel may assist affected person by administering oxygen.
Get medical attention.

INGESTION:

Immediately rinse mouth and provide fresh air.
Drink plenty of water.
Do not induce vomiting.
Never give liquid to an unconscious person.
Get medical attention.

SKIN CONTACT:

Remove affected person from source of contamination.
Promptly wash contaminated skin with soap or mild detergent and water.

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Promptly remove clothing if soaked through and wash as above.
Get medical attention immediately.

EYE CONTACT:

Remove victim immediately from the source of exposure.
Promptly wash eyes with plenty of water while lifting the eye lids.
Continue to rinse for at least 15 minutes.
Get Medical attention immediately.

4.2 MOST IMPORTANT SYMPTOMS AND EFFECTS BOTH ACUTE AND DELAYED:

INHALATION:

Risk of sensitisation by inhalation.
May cause an Asthma-like shortness of breath.

INGESTION:

May cause chemical burns in mouth and throat.
May cause discomfort if swallowed.

SKIN CONTACT:

Burning pain and severe corrosive Skin Damage.
Eye contact Corrosive.
Prolonged contact causes serious Eye and tissue damage.

4.3 INDICATION OF ANY IMMEDIATE MEDICAL ATTENTION AND SPECIAL TREATMENT NEEDED:

No recommendation given but first aid may still be required in case of accidental exposure, inhalation or ingestion of this chemical.
If in doubt, GET MEDICAL ATTENTION IMMEDIATELY.

SECTION 5: FIRE FIGHTING MEASURES

5.1 EXTINGUISHING MEDIA:

Fire can be extinguished using the following Extinguishing Media,

Small Fire:

Water Spray,
Fog or Mist,
Carbon Dioxide or Dry Powder.

Larger Fires:

Water Spray,
Alcohol Resistant Foam.

5.2 SPECIAL HAZARDS ARISING FROM THE SUBSTANCE OR MIXTURE:

Unusual Fire & Explosion Hazards - Forms Explosive Mixtures with Air.
Specific Hazards - In case of Fire, Toxic and Corrosive Gases may be formed.

5.3 ADVICE FOR FIRE FIGHTERS:

Special Fire Fighting Procedures
Cool containers exposed to flames with water until well after the Fire is out.

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Dike and collect extinguishing Water.
Protective equipment for Fire-Fighters
Self Contained Breathing Apparatus (SCBA) and full protective clothing must be worn in case of fire.

SECTION 6: ACCIDENTAL RELEASE MEASURES

6.1 PERSONAL PRECAUTIONS, PROTECTIVE EQUIPMENT AND EMERGENCY PROCEDURES:

Warn everybody of potential hazards and evacuate if necessary.
Extinguish all ignition sources.
Avoid sparks, flames, heat and smoking.
Ventilate, in case of inadequate ventilation,
Use respiratory protection.
Avoid contact with Skin and Eyes.

6.2 ENVIRONMENTAL PRECAUTIONS

Do not discharge into drains, water courses or onto the ground.
Spillages or uncontrolled discharges into watercourses must be IMMEDIATELY alerted to the Environmental Agency or other appropriate Regulatory Body.

6.3 METHODS AND MATERIAL FOR CONTAINMENT AND CLEANING UP:

If molten contain liquid with sand or earth, allow to solidify and transfer to a suitable container for disposal Flush area clean with lots of water.
Be aware of potential for surfaces to become slippery.
Ensure that waste and contaminated materials are collected and removed from the work area as soon as possible in a suitably labelled container.

6.4 REFERENCE TO OTHER SECTIONS:

SECTION 8 : Wear protective clothing.
SECTION 11 : Additional Information on Health Hazards.
SECTION 13 : Waste Disposal.

SECTION 7: HANDLING AND STORAGE

7.1 PRECAUTIONS FOR SAFE HANDLING:

Avoid contact with Skin and Eyes.
Good personal hygiene is necessary.
Wash hands and contaminated areas with Water and Soap before leaving the work site.
Eliminate all sources of ignition.

7.2 CONDITIONS FOR SAFE STORAGE INCLUDING ANY INCOMPATIBILITIES:

Store in tightly closed original container in a dry, cool and well-ventilated place.
Do not store near heat sources or expose to High Temperatures.
Protect from freezing and direct Sun Light.

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Avoid contact with Oxidising Agents.

7.3 SPECIFIC END USE(S):

For further information see attached Exposure Scenario. (Annexe-1)

SECTION 8: EXPOSURE CONTROLS / PERSONAL PROTECTION

8.1 CONTROL PARAMETERS:

Name	STD	TWA – 8 Hrs (LTEL)	STEL – 15 Min	SOURCE	Notes
MALEIC ANHYDRIDE (MOLTEN)	WEL	3 mg/m ³	1 mg/m ³	EH40, 2007	

WEL = Workplace Exposure Limit.
TWA = Time Weighted Average
LTEL = Long Term Exposure Limit
STEL = Short Term Exposure Limit

8.2 EXPOSURE CONTROLS:

PROTECTIVE EQUIPMENT:



ENGINEERING MEASURES:

No specific ventilation requirements noted, except this product must not be used in a confined space without good ventilation.

Respiratory equipment: If ventilation is insufficient, suitable Respiratory protection must be provided.

Hand protection: Chemical resistant gloves required for prolonged or repeated contact.

Eye protection: Wear tight-fitting goggles or face shield.

Other Protection: Provide eyewash station and safety shower.

Hygiene measures: When using do not eat, drink or smoke. Wash promptly if skin becomes wet or contaminated.

Wash hands at the end of each work shift and before eating, smoking and using the toilet.

Skin protection: Wear apron or protective clothing in case of contact.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 INFORMATION ON BASIC PHYSICAL AND CHEMICAL PROPERTIES:

Appearance : Molten – Colourless Liquid when it is above 53°C or White Fused Mass

SAFETY DATA SHEET according to Regulation (EC) No. 1272/2008 & Regulation [EC] No. 1907/2006

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	when it is frozen / Cooled below 53°C.
Colour	: Colourless Liquid or White Fuse Mass at room temperature.
Odour	: Pungent
Initial Boiling Point & Boiling Range	: 202°C
Melting Point	: 53-58°C
Relative density	: 1.480 20
Bulk Density	: 650 kg/m ³
Vapour pressure	: 0.16 mm Hg @ 20°C
Flash Point	: 103
Auto Ignition Temperature (°C)	: 475
Flammability Limit – Lower (%)	: 1.4
Flammability Limit – Upper (%)	: 7.1

9.2 OTHER INFORMATION:

None.

SECTION 10: STABILITY AND REACTIVITY

10.1 REACTIVITY:

No specific reactivity hazards associated with this product.

10.2 CHEMICAL STABILITY:

Stable under normal temperature conditions and recommended use.

10.3 POSSIBILITY OF HAZARDOUS REACTIONS:

None.

10.4 CONDITIONS TO AVOID:

Avoid Heat, Flames, other sources of ignition and Moisture.

10.5 INCOMPATIBLE MATERIALS:

Materials To Avoid:

Alcohols, Glycols, Amines, Alkali Metals, Alkaline Earth Metals and Strong Oxidising substances.

10.6 HAZARDOUS DECOMPOSITION PRODUCTS:

Thermal decomposition or combustion may liberate Carbon Oxides and other Toxic Gases or Vapours.

SECTION 11: TOXICOLOGICAL INFORMATION

11.1 INFORMATION ON TOXICOLOGICAL EFFECTS:

Toxic Dose 1 - LD 50, 1090 mg/kg (Oral Rat)

Other Health Effects – This substance has no evidence of Carcinogenic Properties.

SAFETY DATA SHEET according to Regulation (EC) No. 1272/2008 & Regulation [EC] No. 1907/2006

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Acute toxicity:

Acute Toxicity (Dermal LD50), 2620 mg/kg Rat – Category – 3.
Acute Toxicity (Inhalation LC50), > 4.35 Rat – Category – 1.

Serious Eye Damage/irritation:

Skin corrosive; corrosive to eyes is assumed. No testing is needed.

Respiratory or skin sensitisation: Sensitising:

Sensitizing.

Reproductive Toxicity:

Reproductive Toxicity – Fertility.
Fertility: NOAEL 55 mg/kg Oral Rat

Inhalation:

May cause sensitisation by inhalation. May cause an asthma-like shortness of breath.

Ingestion:

Harmful if swallowed. Causes burns.

Skin contact:

Corrosive. Prolonged contact causes serious tissue damage. May cause sensitisation by skin contact. Eye contact.
Risk of serious damage to eyes. Causes burns.

SECTION 12: ECOLOGICAL INFORMATION

Eco-toxicity:

The product components are 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.

12.1 Toxicity

LC 50, 96 Hrs, Fish mg/l	75
EC 50, 48 Hrs, Daphnia, mg/l	42.81
Acute Toxicity - Aquatic Plants	
NOEC 72 hours	11.8 mg/l
Chronic Toxicity - Fish Early life Stage	
Scientifically unjustified.	
Chronic Toxicity - Aquatic Invertebrates	
NOEC 21 days	10 mg/l Daphnia magna
Acute Toxicity - Terrestrial	
Scientifically unjustified	

12.2 Persistence and Degradability

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Degradability
The product is easily Biodegradable.

12.3 Bio-accumulative Potential

Bio-accumulative potential - This product is not Bio-accumulating.

12.4 Mobility in Soil

Mobility: No data available.

12.5 Results of PBT and vPvB Assessment

This product does not contain any PBT or vPvB substances.

12.6 Other Adverse Effects

Not known.

SECTION 13: DISPOSAL CONSIDERATIONS

General Information:

Waste is classified as hazardous waste.

Disposal to licensed waste disposal site in accordance with the local Waste Disposal Authority.

13.1 Waste Treatment Methods

Dispose of waste and residues in accordance with local authority requirements.

SECTION 14: TRANSPORT INFORMATION

14.1 UN Number

UN No. (ADR/RID/ADN) : 2215
UN No. (IMDG) : 2215
UN No. (ICAO) : 2215

14.2 UN Proper Shipping Name

Proper Shipping Name : MALEIC ANHYDRIDE

14.3 Transport Hazard Class (es)

ADR / RID / ADN Class : Class 8: Corrosive Substances
ADR Label No. : 8
IMDG Class : 8
ICAO Class/Division : 8

TRANSPORT LABEL:

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14.4 Packing Group

IMDG Packing Group : III
ICAO Packing Group : III

14.5. Environmental Hazards

Environmentally Hazardous Substance/Marine Pollutant - No

14.6 Special Precautions for User

EMS : F-A, S-B
Emergency Action Code : 2X
Hazard No. (ADR) : 80
Tunnel Restriction Code : (E)

14.7 Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

Not applicable.

SECTION 15: REGULATORY INFORMATION

15.1 Safety, Health and Environmental Regulations/Legislation Specific for the Substance or Mixture

UK Regulatory References:

Health and Safety at Work Act 1974./ CLASS (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulation – 2013.

The Control of Substances Hazardous to Health Regulations 2002 (S.I 2002 No. 2677) with amendments. Chemicals (Hazard Information & Packaging) Regulations.

Environmental Listing - No listing noted.

Statutory Instruments

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2009 (S.I 2009 No. 716).

Control of Substances Hazardous to Health.

Approved Code of Practice

Safety Data Sheets for Substances and Preparations.

Classification and Labelling of Substances and Preparations Dangerous for Supply.

Guidance Notes

Workplace Exposure Limits EH40. CHIP for everyone HSG(108).

SAFETY DATA SHEET according to Regulation (EC) No. 1272/2008 & Regulation [EC] No. 1907/2006

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EU Legislation :

Dangerous Substance Directive 67/548/EEC.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

National Regulations:

The Chemicals (Hazard Information and Packaging for Supply) Regulations 2002. No.1689.

Workplace Exposure Limits 2005 (EH40)

Health and Safety at Work Act (As Amended) 1974

Control of Substances Hazardous to Health Regulations 2002 (as amended)

CLASS (Classification, Labelling and Safety Data Sheet of Hazardous Chemicals) Regulation 2013.

Regulation (EC) No 1907/2006 of the European Parliament and of the Council of 18 December 2006 concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals (REACH), establishing a European Chemicals Agency, amending Directive 1999/45/EC and repealing Council Regulation (EEC) No 793/93 and Commission Regulation (EC) No 1488/94 as well as Council Directive 76/769/EEC and Commission Directives 91/155/EEC, 93/67/EEC, 93/105/EC and 2000/21/EC, including amendments.

15.2. Chemical Safety Assessment

A chemical safety assessment has been carried out.

SECTION 16: OTHER INFORMATION

Prepared & Issued By	: Head – Quality Assurance
Revision Date	: 17/02/2015
Revision	: 04
Supersedes Date	: 05/08/2014 Rev No.03
Safety Data Sheet	
Status	: Approved.
Risk Phrases in Full	
R34	: Causes Burns
R22	: Harmful if swallowed.
R42/43	: May Cause sensitization by inhalation and skin contact
Hazard Statement in full	
H314	: Causes severe skin burns and eye damage.
H302	: Harmful if swallowed.
H334	: May cause allergy or asthma.

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ANNEXE-1: Exposure Scenario:

ES1 : Use of MAN as a monomer in polymer production (flakes; low dustiness):

Sectors of Use:

SU3 : Industrial uses: Uses of substances as such or in preparation at industrial sites.
SU11 : Manufacture of rubber products.
SU12 : Manufacture.

Process Categories:

PROC1 : Use in closed process, no likelihood of exposure.
PROC2 : Use in closed, continuous process with occasional controlled exposure.
PROC3 : Use in closed batch process (synthesis or formulation).
PROC4 : Use in batch and other process (synthesis) where opportunity for exposure arises.
PROC8b : Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities.
PROC15 : Use as laboratory reagent.

Environmental Release Categories:

ERC1 : Manufacture of substance
ERC6c : Industrial use of monomers in the production of plastics (polymers).

Description of activities and processes covered in the exposure scenario:

Control of Workers Exposure for PROC 1, 2, 3, 4, 8b and 15		
Frequency and duration of use		
Duration of Exposure	> 4	Hours / Day
Frequency of Exposure	≤ 240	Days / Year
Product Characteristics		
Physical State of the product	Solid	
Concentration of the Substance in the Product.	100 %	
Dustiness	Low	
Amounts used	Not relevant in ECETOC TRA	

Human Factors not influenced by Risk Management		
Exposed Body Parts Dermal	Palm of one hand (240 cm ²)	Relevant for PROC 1, 3 and 15
	Palm of both hands (480 cm ²)	Relevant for PROC 2, 4 and 8b
Other given operational condition affecting workers exposure		
Domain	Industrial	
Inside / Outside	Inside	
Technical conditions and measures at process level (source) to prevent release	None	
Conditions and measures to control dispersion from source towards the worker		
Local Exhaust Ventilation required.	Yes	Relevant for PROC 4: Effectiveness 90%
		Relevant for PROC 8b: Effectiveness 95%
Organizational measure to prevent / limit releases, dispersion and exposure	Not relevant ECETOC TRA	
Conditions and measures related to personal protection, hygiene and health evaluation		
Respiratory Protection required	No	
Use of suitable gloves	Yes + Basic Training	Relevant for PROC 1,2,3 & 15: Effectiveness 80%
	Yes + Int. management Supervision Controls	Relevant for PROC 4 & 8b: Effectiveness 98%

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ES2	: Use of MAN as Industrial use as an intermediate (flakes; low dustiness):
SU3	: Industrial uses: Uses of substances as such or in preparation at industrial sites
SU8	: Manufacture of bulk, large scale chemicals (including petroleum products)
PC19	: Intermediate
PC21	: Laboratory chemicals
PROC1	: Use in closed process, no likelihood of exposure
PROC2	: Use in closed, continuous process with occasional controlled exposure
PROC3	: Use in closed batch process (synthesis or formulation)
PROC8b	: Transfer of substance or preparation (charging/discharging) from/to vessels/large containers at dedicated facilities
PROC15	: Use as laboratory reagent
ERC1	: Manufacture of substance
ERC6a	: Industrial use resulting in manufacture of another substance (use of intermediates)

Description of activities and processes covered in the exposure scenario:

Control of workers exposure fro PROC 1, 2, 3, 8b and 15		
Frequency and duration of use		
Duration of Exposure	> 4	Hours / Day
Frequency of Exposure	≤ 240	Days / Year
Product Characteristics		
Physical State of the Product	Solid	
Concentration of the substance in Product	100%	
Dustiness	Low	
Amount Used	Not relevant in ECETOC TRA	

Human Factors not influenced by Risk Management		
Exposed Body Parts Dermal	Palm of one hand (240 cm ²)	Relevant for PROC 1, 3 and 15
	Palm of both hands (480 cm ²)	Relevant for PROC 2, 4 and 8b
Other given operational condition affecting workers exposure		
Domain	Industrial	
Inside / Outside	Inside	
Technical conditions and measures at process level (source) to prevent release	None	
Conditions and measures to control dispersion from source towards the worker		
Local Exhaust Ventilation required.	Yes	Relevant for PROC 4: Effectiveness 90%
		Relevant for PROC 8b: Effectiveness 95%
Organizational measure to prevent / limit releases, dispersion and exposure	Not relevant ECETOC TRA	
Conditions and measures related to personal protection, hygiene and health evaluation		
Respiratory Protection required	No	
Use of suitable gloves	Yes + Basic Training	Relevant for PROC 1,2,3 & 15: Effectiveness 80%
	Yes + Int. management Supervision Controls	Relevant for PROC 4 & 8b: Effectiveness 98%

Disclaimer

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