
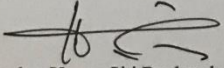
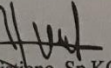



## LAMPIRAN

## Lampiran 1. Surat Ethical Clearence

 <b>KOMISI ETIK PENELITIAN KESEHATAN FAKULTAS KEDOKTERAN GIGI UNIVERSITAS ISLAM SULTAN AGUNG</b> Sekretariat: Fakultas Kedokteran Gigi UNISSULA Jl. Raya Kaligawe Km.04 Semarang 50112 Telp. (024) 6583584, Fax 024-6594366	
<b>KETERANGAN LOLOS KAJI ETIK DESCRIPTION OF ETHICAL APPROVAL "ETHICAL APPROVAL"</b> No. 161/B.1-KEPK/SA-FKG/XII/2019	
Protokol penelitian yang diusulkan oleh :	
<i>The research protocol proposed by</i>	
Peneliti utama <i>Principal In Investigator</i>	: HAYYUNAH AZZAHRA
Pembimbing <i>Supervisor</i>	: 1. drg helmi fathurrahman, Sp.Prof 2. drg. Eko Hadiano, MDSc
Nama Institusi <i>Name of the Institution</i>	: FAKULTAS KEDOKTERAN GIGI UNISSULA
Tempat Penelitian <i>Research Place</i>	: LABORATORIUM MIKROBIOLOGI SENTRAL FAKULTAS KEDOKTERAN UNIVERSITAS DIPONEGORO SEMARANG
Dengan Judul <i>Title</i>	:
<b>PENGARUH PERENDAMAN PLAT THERMOPLASTIC NYLON BERBAGAI KONSENTRASI CHITOSAN TERHADAP JUMLAH KOLONI STAPHYLOCOCCUS AUREUS</b>	
Dinyatakan layak etik sesuai 7 (tujuh) Standar WHO 2011, yaitu: 1) Nilai Sosial, 2) Nilai Ilmiah, 3) Pemerataan Beban dan Manfaat, 4) Risiko, 5) Bujukan / Eksploitasi, 6) Kerahasiaan dan Privacy, dan 7) Persetujuan Setelah Penjelasan, yang merujuk pada Pedoman CIOMS 2016. Hal ini seperti yang ditunjukkan oleh terpenuhinya indicator setiap standar.	
<i>Declared to be ethically appropriate in accordance to 7 (seven) WHO 2011 Standards : 1) Social Values, 2) Scientific Values, 3) Equitable Assessment and Benefits, 4) Risks, 5) Persuasion /</i>	
<i>Guidelines This is as indicated by the fulfillment of the indicators of each standard.</i>	
Pernyataan Laik Etik ini berlaku selama kurun waktu tanggal 1 Desember 2019 sampai dengan tanggal 1 Desember 2020.	
<i>This declaration of ethics applies during the period December 1, 2019 until December 1, 2020.</i>	
Mengetahui, Wakil Dekan I	Semarang, 30 Desember 2019 Ketua Komisi Etik Penelitian Kesehatan Fakultas Kedokteran Gigi UNISSULA
 <b>Dr. drg. Yayun Siti Rochmah, Sp. BM</b> NIK. 210100058	 <b>Dr. Drg. Sandy Christono, Sp.KGA</b> NIK. 211010012

## Lampiran 2. Surat Ijin Penelitian



YAYASAN BADAN WAKAF SULTAN AGUNG  
**UNIVERSITAS ISLAM SULTAN AGUNG (UNISSULA)**  
 Jl. Raya Kaligawe Km. 4 Semarang 50112 Telp. (024) 6583584(8 Sal) Fax. (024)6582455  
 email : informasi@unissula.ac.id web : www.unissula.ac.id

FAKULTAS KEDOKTERAN GIGI
Bismillah Membangun Generasi Khaira Ummah

Nomor : 017/KTI/SA-FKG//2020 Semarang, 16 Januari 2020  
 Hal : ***Ijin Penelitian***

Kepada : **Kepala Lab.Sentral Mikrobiologi  
 Universitas Diponegoro ( UNDIP )  
 Di –  
 Tempat**

***Assalamu 'alaikum wr wb***


Dalam rangka Penelitian untuk Karya Tulis Ilmiah (KTI) Mahasiswa S1 Prodi Sarjana Kedokteran Gigi Fakultas Kedokteran Gigi Universitas Islam Sultan Agung (UNISSULA) Semarang :

Nama : Hayyunah Azzahra  
 NIM : 31101600590  
 Alamat : Jl.Kapas 2 Blok A.24 Perum.Genuk Indah  
 Judul Penelitian : Pengaruh Perendaman Plat Thermoplastic Nylon Berbagai Konsentrasi Chitosan Terhadap Jumlah Koloni Starphylococcus Aereus  
 Waktu : 1 Bulan

Bersama ini kami mohon kesediaan untuk dapat memberikan Ijin Penelitian di Lab.Sentral Mikrobiologi Fakultas Kedokteran Universitas Diponegoro.


Demikian permohonan kami atas perhatian dan kerjasamanya kami ucapkan terima kasih.

***Wassalamu 'alaikum wr wb***



**Wakil Dekan I**  
**Dr.drg.Yayun Siti Rochmah,Sp.BM**  
**NIK.210100058**

**Lampiran 3. Surat Telah Melakukan Penelitian di Laboratorium Sentral  
Diponegoro Semarang bagian Laboratorium Mikrobiologi**

 KEMENTERIAN PENDIDIKAN DAN KEBUDAYAAN  
UNIVERSITAS DIPONEGORO  
FAKULTAS KEDOKTERAN  
BAGIAN MIKROBIOLOGI  
Jl. Prof. H. Soedarto, S.H. Tembalang Semarang kotak pos :1269  
Telepon. (024) 76928010 Faximile. (024) 76928011 email :[dean@fk.undip.ac.id](mailto:dean@fk.undip.ac.id)  
laman : [fk.undip.ac.id](http://fk.undip.ac.id)

10 Januari 2020

No : 005/UN.7.5.4/Mikrobiologi/dok/01/2020  
Lampiran : -  
Perihal : Surat Keterangan Penelitian

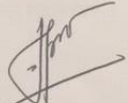
Yang bertandatangan dibawah ini, menerangkan bahwa mahasiswa dengan:

Nama : Hayyunah Azzahra  
Nim : 31101600590  
Fakultas : Kedokteran Gigi  
Perguruan Tinggi : Universitas Sultan Agung Semarang  
Judul skripsi : Pengaruh Konsentrasi Chitosan Terhadap Pertumbuhan Bakteri  
*Staphylococcus aureus* Pada Plat *Thermoplastic nylon*



Telah melakukan penelitian di Laboratorium Mikrobiologi Fakultas Kedokteran Universitas  
Diponegoro pada bulan Desember 2019 untuk digunakan dalam penelitian skripsi.

Demikian surat keterangan ini dibuat untuk digunakan sebagaimana mestinya.

Ketua  
Bagian Mikrobiologi FK UNDIP

  
dr. Endang Sri Lestari, PhD  
NIP 19661016 199702 2001

## Lampiran 4. Bukti Pembelian Keaslian Bahan Serbuk *Chitosan*

		<a href="http://www.sigmaaldrich.com">www.sigmaaldrich.com</a>
<b>SAFETY DATA SHEET</b>		Version 6.1
according to Regulation (EC) No. 1907/2006		Revision Date 18.12.2018 Print Date 30.04.2019
GENERIC EU MSDS - NO COUNTRY SPECIFIC DATA - NO OEL DATA		
<b>SECTION 1: Identification of the substance/mixture and of the company/undertaking</b>		
<b>1.1 Product Identifiers</b>		
Product name	:	Chitosan, from crab shells
Product Number	:	48165
Brand	:	Sigma
REACH No.	:	A registration number is not available for this substance as the substance or its uses are exempted from registration, the annual tonnage does not require a registration or the registration is envisaged for a later registration deadline.
CAS-No.	:	9012-76-4
<b>1.2 Relevant identified uses of the substance or mixture and uses advised against</b>		
Identified uses	:	Laboratory chemicals, Manufacture of substances
<b>1.3 Details of the supplier of the safety data sheet</b>		
Company	:	Sigma-Aldrich Pte Ltd (Co. Registration No. 199403788W) 1 Science Park Road #02-14 The Capricorn, S'pore Sci. PkII SINGAPORE 117528 SINGAPORE
Telephone	:	+65 6779-1200
Fax	:	+65 6779-1822
<b>1.4 Emergency telephone number</b>		
Emergency Phone #	:	1-800-262-8200
<b>SECTION 2: Hazards Identification</b>		
<b>2.1 Classification of the substance or mixture</b>		
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.		
<b>2.2 Label elements</b>		
Not a hazardous substance or mixture according to Regulation (EC) No. 1272/2008.		
<b>2.3 Other hazards</b>		
This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.		
Sigma- 48165		Page 1 of 8
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**SECTION 3: Composition/information on ingredients****3.1 Substances**

Synonyms : 2-Amino-2-deoxy-(1→4)-β-D-glucopyranan  
Poly-(1,4-β-D-glucopyranosamine)

CAS-No. : 9012-76-4

No components need to be disclosed according to the applicable regulations.

---

**SECTION 4: First aid measures****4.1 Description of first aid measures****General advice**

Consult a physician. Show this safety data sheet to the doctor in attendance.

**If inhaled**

If breathed in, move person into fresh air. If not breathing, give artificial respiration. Consult a physician.

**In case of skin contact**

Wash off with soap and plenty of water. Consult a physician.

**In case of eye contact**

Flush eyes with water as a precaution.

**If swallowed**

Never give anything by mouth to an unconscious person. Rinse mouth with water. Consult a physician.

**4.2 Most important symptoms and effects, both acute and delayed**

The most important known symptoms and effects are described in the labelling (see section 2.2) and/or in section 11

**4.3 Indication of any immediate medical attention and special treatment needed**

No data available

---

**SECTION 5: Firefighting measures****5.1 Extinguishing media****Suitable extinguishing media**

Use water spray, alcohol-resistant foam, dry chemical or carbon dioxide.

**5.2 Special hazards arising from the substance or mixture**

Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

**5.3 Advice for firefighters**

Wear self-contained breathing apparatus for firefighting if necessary.

**5.4 Further information**

No data available

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**SECTION 6: Accidental release measures**

- 6.1 Personal precautions, protective equipment and emergency procedures**  
Avoid dust formation. Avoid breathing vapours, mist or gas. Ensure adequate ventilation. For personal protection see section 8.
- 6.2 Environmental precautions**  
Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.
- 6.3 Methods and materials for containment and cleaning up**  
Pick up and arrange disposal without creating dust. Sweep up and shovel. Keep in suitable, closed containers for disposal.
- 6.4 Reference to other sections**  
For disposal see section 13.

---

**SECTION 7: Handling and storage**

- 7.1 Precautions for safe handling**  
Provide appropriate exhaust ventilation at places where dust is formed. For precautions see section 2.2.
- 7.2 Conditions for safe storage, including any incompatibilities**  
Store in cool place. Keep container tightly closed in a dry and well-ventilated place.
- 7.3 Specific end use(s)**  
Apart from the uses mentioned in section 1.2 no other specific uses are stipulated

---

**SECTION 8: Exposure controls/personal protection**

- 8.1 Control parameters**  
**Components with workplace control parameters**
- 8.2 Exposure controls**  
**Appropriate engineering controls**  
Handle in accordance with good industrial hygiene and safety practice. Wash hands before breaks and at the end of workday.
- Personal protective equipment**
- Eye/face protection**  
Use equipment for eye protection tested and approved under appropriate government standards such as NIOSH (US) or EN 166(EU).
- Skin protection**  
Handle with gloves. Gloves must be inspected prior to use. Use proper glove removal technique (without touching glove's outer surface) to avoid skin contact with this product. Dispose of contaminated gloves after use in accordance with applicable laws and good laboratory practices. Wash and dry hands.  
The selected protective gloves have to satisfy the specifications of EU Directive 89/686/EEC and the standard EN 374 derived from it.
- Full contact  
Material: Nitrile rubber  
Minimum layer thickness: 0,11 mm  
Break through time: 480 min  
Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

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**Splash contact**

Material: Nitrile rubber

Minimum layer thickness: 0,11 mm

Break through time: 480 min

Material tested: Dermatrill® (KCL 740 / Aldrich Z677272, Size M)

data source: KCL GmbH, D-36124 Eichenzell, phone +49 (0)6659 87300, e-mail sales@kcl.de, test method: EN374

If used in solution, or mixed with other substances, and under conditions which differ from EN 374, contact the supplier of the CE approved gloves. This recommendation is advisory only and must be evaluated by an industrial hygienist and safety officer familiar with the specific situation of anticipated use by our customers. It should not be construed as offering an approval for any specific use scenario.

**Body Protection**

Choose body protection in relation to its type, to the concentration and amount of dangerous substances, and to the specific work-place. The type of protective equipment must be selected according to the concentration and amount of the dangerous substance at the specific workplace.

**Respiratory protection**

Respiratory protection is not required. Where protection from nuisance levels of dusts are desired, use type N95 (US) or type P1 (EN 143) dust masks. Use respirators and components tested and approved under appropriate government standards such as NIOSH (US) or CEN (EU).

**Control of environmental exposure**

Prevent further leakage or spillage if safe to do so. Do not let product enter drains. Discharge into the environment must be avoided.

**SECTION 9: Physical and chemical properties****9.1 Information on basic physical and chemical properties**

a) Appearance	Form: powder Colour: yellow
b) Odour	No data available
c) Odour Threshold	No data available
d) pH	No data available
e) Melting point/freezing point	No data available
f) Initial boiling point and boiling range	No data available
g) Flash point	No data available
h) Evaporation rate	No data available
i) Flammability (solid, gas)	No data available
j) Upper/lower flammability or explosive limits	No data available
k) Vapour pressure	No data available

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l) Vapour density	No data available
m) Relative density	No data available
n) Water solubility	No data available
o) Partition coefficient: n-octanol/water	No data available
p) Auto-ignition temperature	No data available
q) Decomposition temperature	No data available
r) Viscosity	No data available
s) Explosive properties	No data available
t) Oxidizing properties	No data available

**9.2 Other safety information**

No data available

---

**SECTION 10: Stability and reactivity****10.1 Reactivity**

No data available

**10.2 Chemical stability**

Stable under recommended storage conditions.

**10.3 Possibility of hazardous reactions**

No data available

**10.4 Conditions to avoid**

No data available

**10.5 Incompatible materials**

Strong oxidizing agents

**10.6 Hazardous decomposition products**Hazardous decomposition products formed under fire conditions. - Carbon oxides, Nitrogen oxides (NO<sub>x</sub>)

Other decomposition products - No data available

In the event of fire: see section 5

---

**SECTION 11: Toxicological information****11.1 Information on toxicological effects****Acute toxicity**

LD50 Oral - Rat - &gt; 10.000 mg/kg

**Skin corrosion/irritation**

No data available

**Serious eye damage/eye irritation**

No data available

**Respiratory or skin sensitisation**

No data available

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**Germ cell mutagenicity**

No data available

**Carcinogenicity**

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.

**Reproductive toxicity**

No data available

**Specific target organ toxicity - single exposure**

No data available

**Specific target organ toxicity - repeated exposure**

No data available

**Aspiration hazard**

No data available

**Additional Information**

RTECS: Not available

To the best of our knowledge, the chemical, physical, and toxicological properties have not been thoroughly investigated.

**SECTION 12: Ecological Information****12.1 Toxicity**

Toxicity to fish	LC50 - Oncorhynchus mykiss (rainbow trout) - 1,73 mg/l - 96 h
------------------	---

Toxicity to daphnia and other aquatic invertebrates	EC50 - Daphnia pulex (Water flea) - 13,69 mg/l - 48 h
---	---

**12.2 Persistence and degradability**

No data available

**12.3 Bioaccumulative potential**

No data available

**12.4 Mobility in soil**

No data available

**12.5 Results of PBT and vPvB assessment**

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

**12.6 Other adverse effects**

Toxic to aquatic life.

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**SECTION 13: Disposal considerations**

**13.1 Waste treatment methods**

**Product**  
Offer surplus and non-recyclable solutions to a licensed disposal company. Dissolve or mix the material with a combustible solvent and burn in a chemical incinerator equipped with an afterburner and scrubber.

**Contaminated packaging**  
Dispose of as unused product.

**SECTION 14: Transport information**

- 14.1 UN number**  
ADR/RID: -                      IMDG: -                      IATA: -
- 14.2 UN proper shipping name**  
ADR/RID: Not dangerous goods  
IMDG: Not dangerous goods  
IATA: Not dangerous goods
- 14.3 Transport hazard class(es)**  
ADR/RID: -                      IMDG: -                      IATA: -
- 14.4 Packaging group**  
ADR/RID: -                      IMDG: -                      IATA: -
- 14.5 Environmental hazards**  
ADR/RID: no                      IMDG Marine pollutant: no                      IATA: no
- 14.6 Special precautions for user**  
No data available

**SECTION 15: Regulatory information**

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

This safety datasheet complies with the requirements of Regulation (EC) No. 1907/2006.  
International Chemical Weapons Convention : Neither banned nor restricted  
(CWC) Schedules of Toxic Chemicals and Precursors

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, preparations and articles (Annex XVII) : Neither banned nor restricted

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Neither banned nor restricted

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : This product does not contain substances of very high concern (Regulation (EC) No 1907/2006 (REACH), Article 57).

This product contains a substance listed on Annex XIV of the REACH Regulation (EC) Nr. 1907/2006.

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Listed substance / Sunset Date:

After the sunset date the use of this substance requires either an authorization or can only be used for exempted uses, e.g. use in scientific research and development which includes routine analytics or use as intermediate.

Regulation (EC) No 1005/2009 on substances : Neither banned nor restricted that deplete the ozone layer

#### 15.2 Chemical safety assessment

For this product a chemical safety assessment was not carried out

---

#### SECTION 16: Other information

##### Further information

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The above information is believed to be correct but does not purport to be all inclusive and shall be used only as a guide. The information in this document is based on the present state of our knowledge and is applicable to the product with regard to appropriate safety precautions. It does not represent any guarantee of the properties of the product. Sigma-Aldrich Corporation and its Affiliates shall not be held liable for any damage resulting from handling or from contact with the above product. See [www.sigma-aldrich.com](http://www.sigma-aldrich.com) and/or the reverse side of invoice or packing slip for additional terms and conditions of sale.

The branding on the header and/or footer of this document may temporarily not visually match the product purchased as we transition our branding. However, all of the information in the document regarding the product remains unchanged and matches the product ordered. For further information please contact [misbranding@sial.com](mailto:misbranding@sial.com).

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## Lampiran 5. Hasil Analisa Data

### 5.1 Deskriptif

	Kelompok		Statistic	Std. Error		
Hasil	Aquadest	Mean	137.60	6.585		
		95% Confidence Interval for Mean	Lower Bound 119.32 Upper Bound 155.88			
		5% Trimmed Mean	138.33			
		Median	139.00			
		Variance	216.800			
		Std. Deviation	14.724			
		Minimum	113			
		Maximum	149			
		Range	36			
		Interquartile Range	24			
		Skewness	-1.556	.913		
		Kurtosis	2.638	2.000		
		Klorheksidin		Mean	7.00	1.517
				95% Confidence Interval for Mean	Lower Bound 2.79 Upper Bound 11.21	
5% Trimmed Mean	7.06					
Median	7.00					
Variance	11.500					
Std. Deviation	3.391					
Minimum	2					
Maximum	11					
Range	9					
Interquartile Range	6					
Skewness	-.577			.913		
Kurtosis	.488			2.000		
kitosan 1,4				Mean	77.80	3.200
				95% Confidence Interval for Mean	Lower Bound 68.92 Upper Bound 86.68	
		5% Trimmed Mean	77.67			

	Median		79.00	
	Variance		51.200	
	Std. Deviation		7.155	
	Minimum		70	
	Maximum		88	
	Range		18	
	Interquartile Range		13	
	Skewness		.459	.913
	Kurtosis		-.522	2.000
kitosan 0,6	Mean		60.80	2.437
	95% Confidence Interval for Mean	Lower Bound	54.03	
		Upper Bound	67.57	
	5% Trimmed Mean		60.72	
	Median		60.00	
	Variance		29.700	
	Std. Deviation		5.450	
	Minimum		54	
	Maximum		69	
	Range		15	
	Interquartile Range		9	
	Skewness		.598	.913
	Kurtosis		1.455	2.000
kitosan 0,4	Mean		30.40	.927
	95% Confidence Interval for Mean	Lower Bound	27.83	
		Upper Bound	32.97	
	5% Trimmed Mean		30.39	
	Median		30.00	
	Variance		4.300	
	Std. Deviation		2.074	
	Minimum		28	
	Maximum		33	
	Range		5	
	Interquartile Range		4	
	Skewness		.236	.913
	Kurtosis		-1.963	2.000

## 5.2 Uji Normalitas

		Kolmogorov-Smirnov <sup>a</sup>			Shapiro-Wilk		
	Kelompok	Statistic	Df	Sig.	Statistic	Df	Sig.
Hasil	Aquadest	.311	5	.129	.815	5	.106
	Klorheksidin	.184	5	.200 <sup>*</sup>	.978	5	.921
	kitosan 1,4	.191	5	.200 <sup>*</sup>	.943	5	.685
	kitosan 0,6	.213	5	.200 <sup>*</sup>	.963	5	.826
	kitosan 0,4	.180	5	.200 <sup>*</sup>	.952	5	.754

\*. This is a lower bound of the true significance.

a. Lilliefors Significance Correction

## 5.3 Uji Homogenitas

### Test of Homogeneity of Variances

hasil

Levene Statistic	df1	df2	Sig.
2.077	4	20	.122

## 5.4 Uji One Way Anova

### ANOVA

hasil

	Sum of Squares	Df	Mean Square	F	Sig.
Between Groups	49937.040	4	12484.260	199.111	.000
Within Groups	1254.000	20	62.700		
Total	51191.040	24			

## 5.5 Uji Tukey HSD

### Multiple Comparisons

Dependent Variable: hasil

Tukey HSD

(I) kelompok	(J) kelompok	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
aquadest	klorheksidin	130.600*	5.008	.000	115.61	145.59
	kitosan 1,4	59.800*	5.008	.000	44.81	74.79
	kitosan 0,6	76.800*	5.008	.000	61.81	91.79
	kitosan 0,4	107.200*	5.008	.000	92.21	122.19
klorheksidin	aquadest	-130.600*	5.008	.000	-145.59	-115.61
	kitosan 1,4	-70.800*	5.008	.000	-85.79	-55.81
	kitosan 0,6	-53.800*	5.008	.000	-68.79	-38.81
	kitosan 0,4	-23.400*	5.008	.001	-38.39	-8.41
kitosan 1,4	aquadest	-59.800*	5.008	.000	-74.79	-44.81
	klorheksidin	70.800*	5.008	.000	55.81	85.79
	kitosan 0,6	17.000*	5.008	.021	2.01	31.99
	kitosan 0,4	47.400*	5.008	.000	32.41	62.39
kitosan 0,6	aquadest	-76.800*	5.008	.000	-91.79	-61.81
	klorheksidin	53.800*	5.008	.000	38.81	68.79
	kitosan 1,4	-17.000*	5.008	.021	-31.99	-2.01
	kitosan 0,4	30.400*	5.008	.000	15.41	45.39
kitosan 0,4	aquadest	-107.200*	5.008	.000	-122.19	-92.21
	klorheksidin	23.400*	5.008	.001	8.41	38.39
	kitosan 1,4	-47.400*	5.008	.000	-62.39	-32.41
	kitosan 0,6	-30.400*	5.008	.000	-45.39	-15.41

\*. The mean difference is significant at the 0.05 level.

## Lampiran 6. Dokumentasi Penelitian



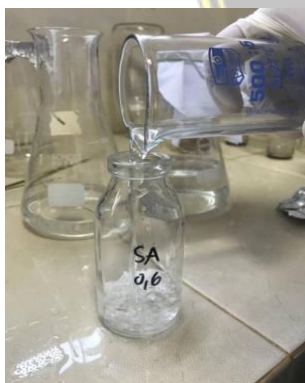
Sterilisasi alat bahan



Pembuatan media *blood agar*



Penimbangan serbuk *chitosan* 0,6%, 0,4% dan 1,4%



Pemberian larutan asam asetat 2% pada serbuk *chitosan*





Larutan *chitosan* 0,4%, 1,4% dan 0,6%



Pengambilan 1 ose koloni *S. aureus*



*Mc Farland* No.1



Pembuatan suspensi bakteri



plat dimasukkan ke suspense bakteri



Suspensi dimasukkan ke inkubator



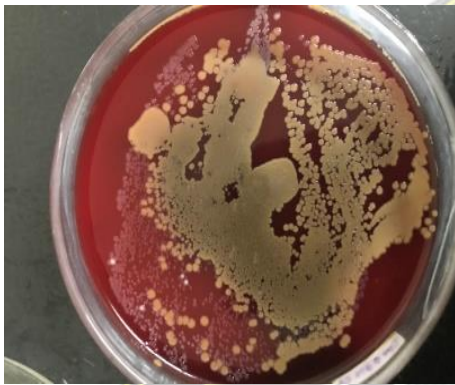
Pemberian perlakuan



Centrifuge koloni



Perhitungan colony counter



Jumlah *S.aureus* pada aquadest



Jumlah *S.aureus* pada chitosan 0,6%



Jumlah *S.aureus* pada chitosan 1,4%



Jumlah *S.aureus* pada chitosan 0,4%



Cakram *thermoplastic nylon*



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Digitally signed  
by drg Helmi  
Fathurrahman Sp  
Pros

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GENERAL COMMENTS

**Instructor**

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